The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLIII. CHICAGO, ILLINOIS, NOVEMBER 12, 1904. No. 20.

Original Articles.

INJURIES TO THE ANTERIOR VAGINAL WALL IN LABOR.

THEIR PRIMARY, INTERMEDIATE AND SECONDARY REPAIR.*

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PHILADELPHIA.

There is no dispute as to the desirability of repairing the pelvic floor, posterior vaginal wall and perineum in the puerperium, although there is ample room for improvement in the manner of doing it in general practice. The old custom of immediate repair, even before the placenta is expressed, as one authority recommends, must be unlearned. The necessity for as careful a preliminary vaginal examination as any expert gynecic surgeon would make before attempting a secondary repair must be appreciated and the operation itself must be conducted like any other vaginal operation with a good table, proper implements and sufficient assistance if women are to be spared the secondary operations to which thousands of them are now subjected.

It has been demonstrated by ample clinical experience that the cervix may be repaired with perfect success and with entire safety to the patient during puerperal convalescence, not only in well-appointed hospitals, but in the homes of both the rich and the poor. It must soon be generally acknowledged that no woman should suffer the disadvantages and risks of cervical injuries in her after-life from which she can be saved by proper attention during the lying-in period.

The nature of the common injuries to the anterior vaginal wall in labor resulting later in urethrocele, cystocele, partial incontinence of urine, decomposition of residual urine, cystitis, and contributing to the causes of prolapsus uteri; the recognition of these injuries; the methods of repairing them during puerperal convalescence are not yet understood even by many of the masters of our principal maternities and of the leading specialists in obstetrics and diseases of women, not to mention the general practitioner. And yet, as I hope to demonstrate, these injuries, as common and often more serious than those of the pelvic floor and cervix, are easily recognized soon after their occurrence, and may be securely repaired by a simple operative technic during puerperal convalescence.

It is necessary, first, to understand the anatomy of the region; second, to comprehend the nature of the injuries of the anterior vaginal wall in labor; third, to be able to recognize these injuries when they occur, and fourth, to devise an operation that will repair them by restoring the original anatomic condition.

We are indebted mainly to Waldeyer for our knowledge of the support and attachments of the anterior vaginal wall.

The pelvic outlet is closed anteriorly, in the triangle under the symphysis pubis by the diaphragm of the urogenital trigonum, consisting of the aponeurosis, the muscle and the fascia of the urogenital trigonum. The muscle constitutes the greater part of the diaphragm. It arises from the periosteum over the ischiopubic junctions, and from the tendinous extensions of the sheaths of the obturator internus. It is inserted in the preurethral ligament, encircles the urethra and is actually inserted in the anterior and lateral vaginal walls. As half the length of the vaginal canal lies below the level of the pelvic outlet, the greater part of the anterior vaginal wall finds its only support in its attachment to the structures of the diaphragm of the urogenital trigonum. The older view that the anterior vaginal wall is supported by the muscles, particularly the levator ani, encircling the posterior vaginal wall, is not correct. These muscles may be destroyed as a pelvic support without the development of a cystocele; they may be intact or perfectly repaired and yet a cystocele appears.

The injuries experienced by the anterior vaginal wall in labor are two-fold. Transverse rugæ are nipped between the child's head and the symphysis; the fold of the vaginal wall is pushed down in front of the head and is separated from its subjacent attachments to the loose connective and elastic tissue between its upper third and the bladder. This injury, however, is of subordinate importance. The more serious damage is a laceration of the musculotendinous diaphragm of the urogenital trigonum running across the anterior vaginal sulci. As the head at the pelvic outlet is oblique, and as it almost always lies with its longest diameter in the right oblique diameter of the pelvis, the structures in the left anterior sulcus are most extensively torn. Frequently the injury is confined to this side alone.

Of the two injuries the first may be ignored in diagnosis and treatment. No one ever saw such a complete detachment of the anterior vaginal wall that a cystocele appeared at the end of puerperal convalescence. It takes years to develop. What one does see very frequently is a bulging downward and outward of the lower half of the anterior vaginal wall. As years elapse the constant pull of this prolapse drags the upper half of the vagina and the bladder after it, pulls the cervix forward, tilts the uterus backward, and is one of the most important contributory causes of prolapsus uteri. The cause of this dropping of the anterior vaginal wall

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. J. H. Carstens, A. Palmer Dudley and L. H. Dunning.

can easily be recognized by inserting the forefinger in the vagina, palmar surface upward, and making pressure upward and outward in the anterior vaginal sulcus toward the pubic bone. On the sound side the elastic and resistant cushion of the urogenital trigonum diaphragm is plainly felt; on the injured side the finger comes immediately in contact with the sharp edge of the bone, nothing intervening but the vaginal mucosa. Usually this injury is submucous, but frequently the vaginal wall itself is also torn through, as I have demonstrated in scores of cases to my students. In such instances one gets a most convincing demonstration of the true nature of this injury, and sees a raw surface strikingly like the denudation to be discussed later.

If the anatomy of this region is understood as Waldeyer enables us to understand it in his admirable work "Das Becken"; if the nature of the injury to the anterior wall is comprehended, as it can be by a close observation of a sufficiently large clinical material, the remedy is easy enough to devise. It is obviously to reunite the torn fibers of the anterior pelvic diaphragm, restoring the normal anatomic support of the lower half of the anterior vaginal wall and, in the case of an old, neglected, well-developed cystocele, to remove the redundant thinned-out vaginal wall in the middle line, rejoining the stronger connective tissue fibers which have been crowded to either side by a tier suture.

It is almost unnecessary to dilate on the technic of accomplishing these purposes. Any one well trained in plastic vaginal surgery will devise a method to suit himself. Some practical points, however, suggested by a large experience,[1] may be of interest.

In the primary repair of this injury, if it is submucous, the sutures should be inserted so as not to crowd the vaginal mucosa between the ends of the lacerated muscle and connective tissue fibers. This is done by making one deep insertion of the needle, a returning shallow insertion under the mucosa, and the junction of the suture to one side of the injured area.

If the repair is postponed for five to seven days, as it should be if the cervix must also be repaired, a denudation of the anterior sulcus must often be made, and as in all plastic operations on the vagina, the whole thickness of the vaginal wall should be removed so as to expose the muscles and fascia beneath. The most convenient way to expose the anterior vaginal sulcus is to fasten an Allis forceps alongside the urethra and another opposite it, to the lateral vaginal wall at the introitus. By making traction upward and laterally the triangular cleft, if the anterior sulcus is injured, comes plainly into view. The quickest way to make the denudation is to mark out its boundaries with a sharp knife and to excise the triangular piece of vaginal wall with scissors. In inserting the sutures the needle is deeply inserted with the same turn of the wrist that is used to catch the muscle and fascia in the Emmet operation on the posterior vaginal wall.

If there is a very well-marked cystocele of long standing with thinned-out and redundant tissue in the middle line of the vaginal wall, the cystocele is pushed back; the anterior sulci are denuded, the stitches are inserted but not united; the cervix is pulled out of the vulva, a Martin anterior colporrhaphy is performed; then the stitches on the anterior sulci are shotted or tied, as the operator prefers.

1. Of a total of more than 2,000 gynecologic cases yearly in the hospital services under my direct control, exclusive of private and consulting practice, more than 700 are women recently delivered. More than 200 of these anterior wall operations have been performed in the last two and a half years.

In cases of injury to the muscles and fascia of the sulci with incipient cystocele, or with that partial incontinence of urine so common in middle-aged women who have borne children, the operation need only include the denudation of the sulci and suturing. If, in addition, there is also a repair of the posterior sulci, one can not fail to be impressed with the normal and nulliparous appearance of the lower vaginal canal.

Attempts have been made before by Simon, Velpeau, Emmet, Fehling and Skene[2] to perform lateroanterior colporrhaphies for urethrocele, cystocele and prolapse, but a study of the methods described by these authors shows, I think, that they are not based on accurate anatomic knowledge, and that they could not accomplish their purpose so well as the method I advocate and have attempted to describe.

THE ETIOLOGY AND PATHOLOGY OF CYSTOCELE AND A NEW OPERATION FOR ITS RELIEF.*

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The early procedures for the relief of cystocele consisted simply in building up a strong perineal body that should retain the prolapsed tissue within the vulva. Simon practiced this for many years, but his experience developed the fact that this method was only a temporary expedient; the weight of the sustained mass and intra-abdominal pressure gradually absorbed the artificially constructed dam and allowed the former condition to be reproduced. Marion Sims brought his batteries to bear directly on the offending tissues, and devised the procedure known as anterior colporrhaphy. Emmet followed the suggestion of Sims, and improved on it, modifying in various ways the denuded surfaces, with the idea of building up a resisting line of tissue that should act as a lever in holding the cervix high in the hollow of the sacrum. E. C. Dudley shifted the seat of operation to the lateral sulci of the vagina in the operation that he denominates "lateral elytrorrhaphy." Stolz' operation, the purse-string suture about an elliptically denuded surface in the center of the protruding mass, has had considerable popularity. This is due more to its simplicity than its efficiency. In addition to its temporary character, it introduces the most objectionable element of shortening the anterior vaginal wall, the baneful consequences of which are universally recognized.

All of these procedures utterly fail in grasping the true cause of the difficulty and attacking it on rational principles. Granting that a cystocele is a hernia, it would seem quite as rational a procedure and give promise of quite as satisfactory results to denude the skin over an inguinal hernia and bring its edges together with stitches as to expect to cure a cystocele by simply denuding the vaginal mucous membrane, tucking in the prolapsed bladder and stitching together the freshened edges of mucous membrane. The fascia is the sustaining tissue, and if there has been a pocket or hernia produced in it by overdistension until it has lost its power of recovery, the only permanent relief consists in cutting out the overdistended and atrophied area of

2. See Fehling, Centralbl. f. Gyn., No. 43, 1889, p. 746, and Skene's Diseases of Women, 2d ed., p. 866, 1892.

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the fascia and bringing into apposition the strong, well-nourished areas beyond, that have not been subjected to or have resisted the destructive pressure.

Stone[1] of Washington has emphasized the importance of wide dissection at the base of the bladder and resection of the entire area of overstretched fascia and mucous membrane, giving credit for the suggestion to Saenger of Prague. In addition to this, he strengthens the upper support of the vagina by attaching the vagina to the anterior face of the uterus—a vaginal fixation of the uterus.

Reynolds of Boston, in a paper read before this Section last year, also laid stress on the importance of cutting out the weakened overstretched fascia. His idea is to obtain support also from the anterior vaginal wall by fastening its upper end to the bases of the broad ligaments at either side of the cervix uteri. This is accomplished by swinging around in front of the cervix, the bases of the broad ligaments attaching them together in the middle line and connecting this common point with the vaginal fascia in line with the urethra. To use the author's own language: This approximation of the firm lower and upper attachments of the anterior

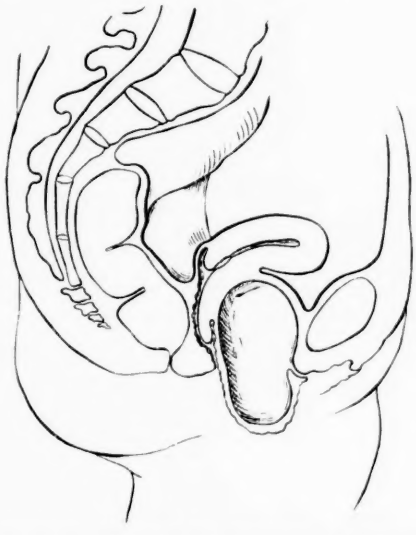

Fig. 1.—Cystocele produced by supravaginal elongation of the anterior lip of the cervix uteri, found in virgins and nulliparous women. When both lips are elongated the posterior vaginal wall comes down and rectocele is also produced.

wall has been arrived at in Emmet's and Watkin's operations, and I believe underlies their success.

I have not attempted this operation. Theoretically, it is open to the objection that there is danger of wounding the ureter in passing a suture through the base of the broad ligament at the side of the cervix. It is also open to the objection, common to all the other operations that have been considered, namely, that by tucking up or invaginating the excess of bladder wall and then diminishing the size of its inclosing fascia, the base of the bladder is thrown into multitudinous folds in various directions. In the pockets of these folds the urine accumulates, is retained, undergoes decomposition and is apt to inaugurate an unfortunate train of sequelæ, such as cystitis, calculus, ureteritis, pyelitis, etc.

METHOD OF OPERATION.

It has been my endeavor in the procedure which I offer to-day not only to provide a good strong support for the bladder, but also to do away with the redundant folds of bladder wall at its base. In diminishing the size of the inclosing fascia, as stated above, not only is there a redundancy of tissue from side to side, but also anteroposteriorly. This can be obviated by dissecting the bladder entirely free from its attachments to the uterus, the broad ligaments and the vagina, the entire organ rotated on its transverse diameter, and the excess of bladder wall in the cystocele spread out on the face of the uterus and the broad ligaments.

The anterior vaginal incision, as employed in vaginal section for the relief of diseased ovaries and tubes, and retrodisplacement of the uterus, affords every opportunity for accomplishing this procedure. This became strikingly apparent to me in a case in which I was operating for the relief of these conditions. The case was one of those multiple injuries resulting from childbirth, in which there was present laceration of the cervix and perineum, rectocele, cystocele, retroversion of the uterus with prolapsed and adherent appendages. After the uterus had been curetted, trachelorrhaphy performed, the anterior vaginal incision made, the ovaries and tubes treated and the fundus uteri restored to its normal position by shortening the round ligaments, the bladder, which pouted through

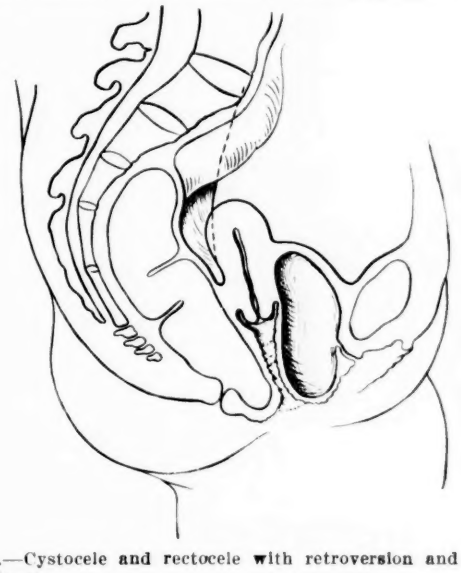

Fig. 2.—Cystocele and rectocele with retroversion and prolapse of the uterus.

the vaginal incision, was rotated on its transverse diameter, and its base carried up onto the anterior face of the uterus and stitched there with chromicized catgut. This took in all the slack in the anteroposterior line of the base, and by stretching out first one side of the bladder and then the other and stitching it on to the respective face of the broad ligament, the lateral folds were also obliterated. The pouting sac had entirely disappeared. It only remained, then, to make the vaginal wall fit this new position of the bladder. This was accomplished by cutting away all the overstretched vaginal sheath and membrane at either side of the longitudinal vaginal incision and bringing together the bare strong facial edges with interrupted catgut sutures. This made the vaginal wall fit snugly against the base of the bladder, and it was at once apparent that the anterior vaginal wall, instead of sagging into the lumen of the vagina, maintained a straight line from the pubis to the cervix uteri. Perineorrhaphy was then performed, and the result was all that could be desired.

1. Trans. Am. Gynec. Soc., vol. xxvii, 1902.

In order to understand the thoroughness of this work, it is necessary to keep in mind the method of making the anterior vaginal incision. A cross incision, slightly curved or straight, is made in front of the cervix, as in vaginal hysterectomy. From the middle point of this a second incision is made at right angles to it down the entire length of the anterior vaginal wall. These incisions go through the fascia down to the bladder wall. The bladder is then dissected widely and freely from the interior of the fascia on either side of the median line till the entire organ is set quite free throughout its entire base and sides. The vesico-uterine pouch is then entered and the peritoneum torn across the face of the uterus and well out on to the face of the broad ligaments. The bladder is stitched by an interrupted suture of chromic gut at three points only, the middle of anterior face of the uterus and two points on the broad ligaments sufficiently wide apart to spread out the bladder wall. The method of passing the sutures is important: The sutures are all passed and left sufficiently long to protrude from the vulva before any one is tied. When all three are in place the middle one is tied first, then the others.

Fig. 3.—Transverse incision in vaginal section reduced from M to N. The bladder is then dissected from the uterus from N to O. A longitudinal incision is then made through the mucous membrane and fascia from N to P, and the bladder is dissected from the vagina as shown in Figure 4.

The principle involved here is that which Nature has employed in sustaining all the organs of the human body, viz., suspension from above. The bladder in this operation is carried up and suspended from the uterus and broad ligaments. In addition to this the true method of treating a hernia is also brought into requisition.

To apply this principle in detail to all cases of cystocele, it is necessary to classify them in accordance with the etiology. In virgins and nulliparous women, as a rule, the uterus, i. e., the fundus, remains in place. Exceptions to this appear rarely in instances of prolapsus. The etiology consists in an elongation of the supravaginal portion of the cervix, due to hypertrophy of the uterine tissue. This permits the descent of the points of support, at the upper end of the vagina, producing a sagging of the vaginal wall and the base of the bladder. This initial elongation pushes down the vaginal supports, but later the rôles are reversed and the vaginal prolapse drags on and increases the elongation of the cervix. In these cases there may or may not be a hernia of the bladder through the vaginal sheath. There is prolapse of all the vaginal wall accompanied by the bladder. In many of these cases the primary hypertrophy of the supravaginal cervix is confined to the anterior lip. In these instances there exists a protrusion of the anterior vaginal wall with the bladder behind it, but unaccompanied by a rectocele. In the first variety of this class of cases the entire attachment of the upper end of the vagina must be cut away, the elongated cervix amputated, and the attachments of the vagina shifted to a higher level. If it is of long standing and a hernia of the bladder exists, the uterovesical attachments must also be lifted to a higher level and the details of the operation, as previously described, applied. If only the anterior lip is hypertrophied, of course only the anterior attachments of the vagina to the uterus need to be dealt with. In both classes of cases, however, great facility is afforded by the transverse and longitudinal incisions and free dissection of the bladder from the vagina and uterus.

The most common cases of cystocele are found in

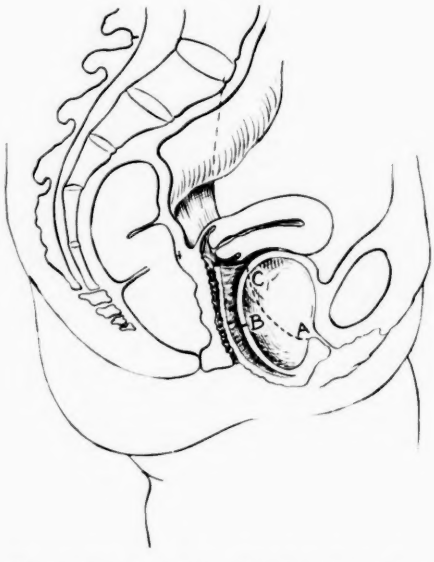

Fig. 4.—The vagina has been dissected from the bladder at either side of the longitudinal incision and the vesico-uterine peritoneum torn through. Point B is selected, which when carried to C, will lift the curve A B to a straight line A C, when it is secured by suture.

multipara, and associated quite uniformly with descensus and retroversion of the uterus. In these cases it is necessary, before attacking the cystocele, to restore the uterus to its normal position and secure for it sufficient support, not only to maintain that position for itself, but also to support the bladder. It must be borne in mind, however, that the higher attachment of the bladder operates equally in lifting the bladder to a higher level and maintaining the uterus in its normal anteverted position.

This procedure is applicable to all cases of this class in which the condition is not so extreme or of so long standing as to have robbed the connective tissue of all recuperative power. Extreme cases, however, are surprisingly restored by this operation, when even a more radical procedure seems indicated; for by the restoration of normal circulation and nutrition the sustaining power of the connective tissue is restored and a normal healthy condition established. The extreme cases in which hysterectomy, extreme vaginal fixation of the

uterus or complete removal of the uterus and appendages, together with the entire vagina, panhysterocolpectomy, as described by Edebohls, do not come within the scope of our consideration in this procedure.

I have performed this operation eight times, all with most satisfactory results. The first case was operated on in September, 1902. Two of these cases about one year after operation were presented before the New York Obstetrical Society in a preliminary report I made to that association. A committee of three was appointed to examine the cases, and reported individually and collectively that the results in all were eminently successful. All of these cases were in laboring women, well advanced in years, and sufferers to an extreme degree from multiple lesions of the generative organs. All of these lesions in each instance were relieved at one sitting. The reports of the cases follow. I give the first one in full to set forth the various steps of the procedure in all its details:

CASE 1.—Mrs. M. M., age 49.

History.—Married 23 years, five children, the last fifteen years ago; one miscarriage eleven years ago. All labors were

Fig. 5.—Point C in Figure 4 is carried to C Figure 5 and B to B. The vaginal membrane and fascia have been trimmed to fit and suture applied.

prolonged and difficult. Complains of pain in both ovarian regions and back, accompanied by a "dropping-down feeling" in the pelvis. Menstruation is irregular and painful. Suffers from frequent difficult and painful micturition; is disturbed by it during the night.

Diagnosis.—Retroversion of the uterus, laceration of cervix and perineum, rectocele and cystocele.

Operation.—Sept. 24, 1902. Uterus was curetted and packed with gauze; the lacerations of the cervix were repaired, and the round ligaments shortened through the anterior vaginal incision. In making this incision the bladder was dissected entirely free from the vaginal sheath and fascia well out at either side. The vesicouterine peritoneal fold was pierced and the peritoneum torn across well out on to the surface of the broad ligaments. To relieve the cystocele the bladder was then rotated on its transverse diameter and stitched in the following manner: A point was selected in the middle line of the base of the bladder wall which could be carried up to the torn edge of peritoneum on the anterior surface of the uterus, middle point, and by so doing take up all the slack in the base of the bladder, making a comparatively straight line from the urethra to the uterus. Through this point a suture was passed and carried also through the selected point on the anterior face of the uterus. The suture was of chromicized catgut No. 2. It was left long and was not tied. Two points were then selected, one at either side, on a transverse line with the first and about equally distant. Through these similar sutures were passed and carried through a point on the torn off edges of peritoneum on the surface of either broad ligament, sufficiently wide at the middle line to take in all the

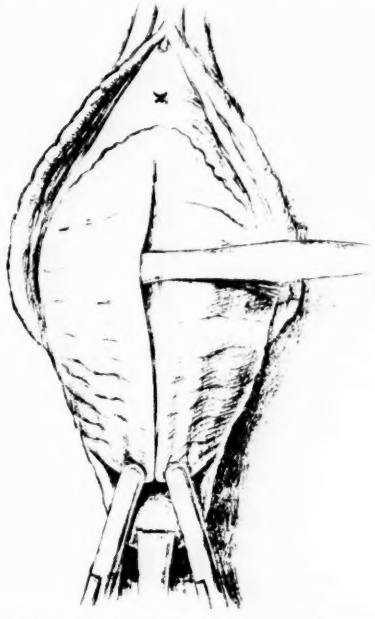

Fig. 6.—Showing the method of dissecting the vagina from the bladder after longitudinal incision in anterior vaginal section.

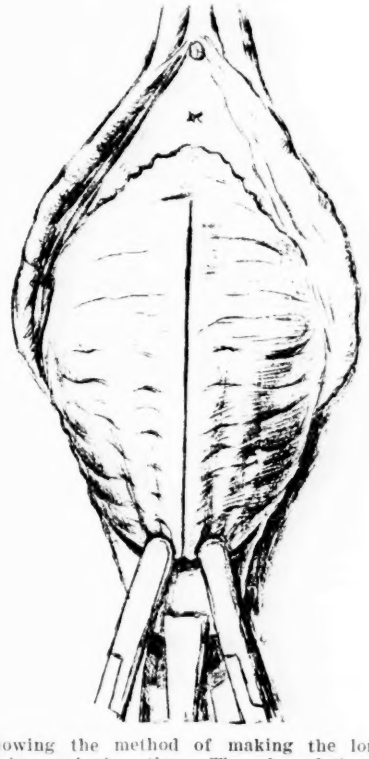

Fig. 7.—Showing the method of making the longitudinal incision in anterior vaginal section. The edge of the transverse incision is grasped by artery clamps and the vaginal wall put on the stretch and an incision made from the neck of the bladder to the middle of the transverse incision.

slack in the base of the bladder from side to side. These sutures were also left long. The three sutures were then tied successively, beginning with the middle one. The effect of this was to stretch the base of the bladder taut and smooth in every direction. The fascia along the middle line of the vaginal incision and the mucous membrane as well were then trimmed

off sufficiently to make them fit the base of the bladder snugly, and were stitched with interrupted sutures of chromicized gut. The perineum was also repaired. The vagina was gently packed with gauze and the patient put to bed. Convalescence was afebrile, smooth and comfortable. When last seen in January the support of the bladder was perfect and all the bladder symptoms had been relieved. The other surgical procedures were equally satisfactory and successful.

CASE 2.—Mrs. L. S., aged 41; married; five children.

Diagnosis.—Rectocele, cystocele, extensive lacerations of cervix and perineum, hemorrhoids.

Operation.—Nov. 15, 1902. Curettage, repair of cervix, shortening of the round ligaments, cystocele treated by method described, perineorrhaphy and Whitehead's operation for piles. The perineal operation was not entirely satisfactory; the results in other respects were exceptionally good.

CASE 3.—Mrs. M. H., age 50; four children; youngest 6 years.

Diagnosis.—Endometritis, cystocele, rectocele with prolapse of the uterus.

Operation.—Feb. 11, 1903. Curettage, anterior vaginal section, shortening of the round ligaments, treatment of cystocele by method described, repair of perineum.

Results.—Entirely satisfactory.

CASE 4.—Mrs. M. M., age 39; mother of five children, last two years ago.

Diagnosis.—Endometritus, retroversion and extreme prolapse of the uterus, cystocele, rectocele, lacerations of cervix and perineum.

Operation.—March 7, 1903. Curettage, repair of cervix, posterior and anterior vaginal section, shortening of the utero-sacral and round ligaments, treatment of cystocele by method described, perineorrhaphy.

Results.—Entirely satisfactory.

These are typical cases; the narration of the last three would be only a repetition.

REPORT OF COMMITTEE.

The report of the men composing the committee of the obstetrical society was as follows:

DR. CLEMENT CLEVELAND—I examined the two cases of Dr. Goffe's and one especially impressed me very much. She was a large, stout woman in whom he restored a retrodisplaced uterus. There had been also an excessive cystocele and large rectocele. I examined this patient very carefully and found the uterus in normal position. The anterior wall was as nearly normal as any one could expect after any operation. In the second case the results were not quite as good, but were very satisfactory.

DR. G. G. WARD, JR.— . . . In both cases I particularly noticed that the anterior wall was not shortened in any way. The bladder was suspended and seemed to be supported without the aid of the perineorrhaphy which had been done in both cases.

DR. G. H. MALLETT—One of these patients was a large, stout woman, and she appeared to be in a normal condition. In one there seemed to be left a rectocele.

DR. HENRY C. COE in discussion said: "I have always been convinced that ordinary cystocele operations were of little value. Dr. Goffe's operation is certainly a most ingenious one, but to successfully perform it requires the special skill in vaginal work which he possesses."

The closing remark of Dr. Coe's I uncompromisingly disclaim. A very limited experience in anterior vaginal section promptly convinces any reasonably experienced pelvic surgeon of the practical feasibility of the procedure.

DISCUSSION

ON PAPERS BY DRS. HIRST AND GOFFE.

DR. RUDOLPH W. HOLMES, Chicago, said that we must know the condition of the pelvic structures in pregnancy and the puerperium to appreciate Dr. Hirst's report of 200 operations for cystocele, two weeks after labor in 257 patients confined in his clinic. During the progress of pregnancy there is a marked relaxation of all the pelvic muscles and connective tissue; this is evidenced by the relaxed vagina, the more patulous vulva which may even be gaping in some primiparæ, and is usual in those already the mothers of children. As the vulva is opened with the fingers the anterior wall of the vagina is seen more dependent, even to such an extent as to be a mild cystocele; this is due to the fact that intra-abdominal pressure readily may force down the anterior vaginal wall when a pelvic floor relaxation exists—as it almost invariably does exist in advanced pregnancy—a fact pointed out by Schroeder years ago; this is specially characteristic in multiparæ, but is not limited to them. Further evidence of this relaxation is demonstrated in the increased pelvic floor projection which has been so well studied by Drs. Hart and Barbour. Cystocele, to a slight degree, is characteristic of pregnancy; if it is a physiologic condition in pregnancy, it must also be a physiologic condition of the puerperium until involution is completed, and then only may it be characterized as pathologic and present the question of an operative procedure. Ten or fifteen years ago Dr. Hart showed that the anterior wall from its relations to the anterior boundaries of the pelvis is not liable to injury during labor. Dr. Holmes has not seen injuries of the anterior wall of the vagina during labor except in operative cases. If these rare injuries occur they should be repaired immediately. Therefore, it is inadvisable to perform a cystocele operation at a time when cystocele is physiologic, with, perhaps, a certain amount of pathologic entity. Cystocele, as a pathologic condition is rare, and in nearly all instances is due to the action of abdominal pressure unapposed by an intact pelvic floor; if the posterior vaginal wall and perineum are repaired the cystocele will take care of itself and the anterior wall will return spontaneously to its normal condition. The second week of the puerperium is a very bad time to operate for vaginal conditions because of the increased liability to infection; the lochia is teeming with septic bacteria which would jeopardize a favorable result.

DR. MORDECAI PRICE, Philadelphia, agreed with Dr. Hirst that repairs should be made immediately after delivery of the placenta. Dr. Price, however, disapproved of closing a wound in the birth canal a week after labor, as such work done in the midst of filth is not good surgery, and no one can say that the birth canal, torn and mutilated, is clean and aseptic at that time, no matter what antiseptics are used; one can not get below the area of sepsis. Dr. Price said that he had recently seen a woman with a temperature of 105 F. on the eleventh day, who had had no sign of trouble prior to that time. Can one say that vaginal repair a week after labor is not the cause? Can an operator say conscientiously that his sutures have not enclosed septic material?

Dr. Price believes that Dr. Hirst is wrong, and that there is not one in ten who can say what is the cause of the fever that follows childbirth. He has stood by patients for weeks and at last there was a little swelling of the leg and a little fever, indicating a condition having its origin, probably, in some disturbance in the large veins of the birth canal. One could not say, having done an operation a week after parturition, that it was not the result of that operation. He would not operate at that time and considered it radically wrong.

DR. SWITHIN CHANDLER, Philadelphia, said that many a general practitioner has been condemned because a cystocele, due to injury to the vaginal wall, has followed labor. The physician was often unable to diagnose such an injury as the mucous membrane was intact, the tissues beneath it being ruptured. Dr. Chandler thought that Dr. Goffe's paper clearly demonstrated that we have displacement as the result of tears in the vaginal wall, and stated that he had removed stitches placed in the vaginal wall from three to ten days after labor, and had found green pus abscesses from the enclosed tissue in the vaginal wall which were the cause of the fever in the patient. He asked if Dr. Goffe examined the bladder after his operation to note its condition, and if so, what that condition was. He said that a question which might bother us is whether the fixation would cause

trouble because the bladder, properly speaking, is not a fixed organ. It is loosely adherent, so that it can expand when required in any direction, and that even though the folds which Dr. Goffe has made by his operation are in the top of the bladder, it is well to remember that they are covered by epithelium, and that any interference might cause cystic or other trouble, which might spread to the kidneys and surrounding parts. Dr. Chandler did not consider that Dr. Goffe had proven his point in regard to cause and effect due to elongation of the cervix, because other factors enter into this question besides the elongated cervix, and the operation for the relief of this elongation will not cure the whole trouble.

Dr. I. S. Stone, Washington, D. C., stated that his work up to 1900 culminated in an operation which was very much like Dr. Goffe's in making section at the cervix, pushing away the bladder, pressing it out from the broad ligaments and attaching the vaginal wall as high on the uterus as possible; at least as high as the insertion of the round ligaments. There was no trouble in closing the two sides of the vaginal rent and getting a very good result. The idea of placing the bladder high up was entirely original with him. He reported the operation in 1900, when he had gone far enough to excise an elliptical piece from the vagina, after separation from the bladder, according to Dr. Goffe's method so that we get an entirely new implantation, and he also attached the bladder out on the sides of the broad ligament. There is not only a cystocele, but also a prolapse, and a hernia; the chief thing to overcome is the hernia. In the average operation all that is done is to shorten a line which may be compared to a cord stretched across the room and tied up in the center, as in the old Stoltz operation or the anterior colporrhaphy of Sims. It tightens the rope in the center, leaving the same strength at either end with the same weight to bear. Therefore, the idea was to attach the bladder in a new position on the sides of the pelvis and utilize all the surplus of fascia instead of leaving it suspended by its former thin attenuated portions. Dr. Stone spoke of a woman, 60 years old, quite senile, with thin vaginal walls and small uterus, who had a complete hernia of the rectum and bladder, effacing the whole cul-de-sac. The hernia was about the size of a child's head; a typical case for a plastic operation. The operation was done precisely as described by Dr. Goffe. The result was that about six months ago the woman returned after having enjoyed several years of good health. She had a slight hernia of the cul-de-sac itself; the bladder was held in position, firmly anchored; no prolapse of the bladder, and the rectal operation was a success, but there is a slight hernia of the cul-de-sac. The rectal operation is the same in principle as the anterior operation, and both of these special operations are best suited to those difficult cases occurring in women who are not likely to become impregnated.

Dr. J. Wesley Bovée, Washington, D. C., thinks that these operations, as a rule, are overdoing the work required. It is not the attachment of the uterus or the bladder to the peritoneum which is giving trouble; it is an injury of the connective tissue between the vagina and the bladder, and he failed to see the necessity for so complete separation of the bladder and opening the peritoneal cavity, and then lifting it up and attaching the bladder higher. It is a matter of properly repairing the supporting structures, leaving its normal load, the bladder, and improving the support, the anterior vaginal wall. Sometimes this connective tissue is thinned out very materially; the tear not being in one line, but the fibers torn in various positions, and in such a case it is best to support the fascia and splice or overlap it. Do not cut away any connective tissue. If the position of the uterus promotes the sinking of the anterior vaginal wall, perhaps from an elongated cervix, or some other condition, repair this at the time, but, if possible, without entering the peritoneal cavity,

Dr. J. H. Burtenshaw, New York City, thinks that this new operation marks a distinct advance in anterior-wall surgery. In the ordinary operation for the correction of cystocele an area is denuded and the muscle backed up against itself, which naturally results in a puckering of the posterior bladder wall into rugæ. This factor has always been objectionable for obvious reasons. He said that more than a year ago, Dr. Reynolds of Boston devised an operation which provided for the excision of an elliptical section of the entire thickness of the vaginal wall, the bladder being separated from its attachment above the edges of the wound, and the ellipse closed by deep sutures. In such a case the absence of rugæ will depend entirely on the amount of tissue removed and on the extent of bladder-wall separation. An objection to the technic lies in the possibility of the giving way of the cicatrix, in which event a hernia of the bladder would result, and a secondary operation be necessary. The operation described by Dr. Goffe does away entirely with the formation of rugæ and with the complications which might arise from their presence. Dr. Burtenshaw said that if the bladder wall is attached to the broad ligaments above the level of the internal os uteri, at a considerable distance from the median line, there is danger of including the ovarian arteries in the ligature, and that when the viscus is attached to such a friable structure as the broad ligament, when it becomes overdistended there is a probability of the permanent sutures and adhesions giving way. Then, too, the anterior vaginal wall is split from a point corresponding to the entrance of the urethra to the cervix; is there not a probability that the resulting cicatrix may contract longitudinally, and so diminish the length of the canal?

Dr. B. C. Hirst said that no one should think of repairing the posterior vaginal wall unless he knew the nature of its injury in labor, nor should he repair the cervix unless he knows how it was lacerated in childbirth. It is exactly the same with the anterior vaginal wall. He said that some of the gentlemen who had discussed the subject had ignored the effect of labor on the anterior wall and had proposed operations which had no more relation to the injury the structure experienced in labor, than if the woman had never been delivered. Dr. Hirst considers that the first essential in devising a permanently successful operation for cystocele is to understand exactly what caused the cystocele, and claimed that his method is based on correct anatomic knowledge and a sufficiently large experience in the examination of women recently confined. Much that has been said illustrates a weakness of American gynecology. During the last generation too many specialists in diseases of women have lacked experience in the greater half of gynecology—the child-bearing period. Our school of gynecology is not so good as it would have been had we followed the custom of other civilized countries by preparing ourselves in the whole science of the diseases of women; familiarizing ourselves with child-bearing, and all stages of the diseases and injuries which follow. He also stated that these operations can be done five or six days after labor with perfect safety. He has been doing this work for some time in a large clinic, and many masters of the best maternities in the world have performed and preferred the intermediate operation. He also said that Dr. Price need have no concern for the safety of the patient, because, if his aseptic technic is what it ought to be, he also could perform the intermediate operation without morbidity or mortality. Dr. Hirst said that though a few surgeons have done successful operations for cystocele, as demonstrated by an experience of two or three years, it is not sufficient to demonstrate the advantage of any surgical procedure for this condition. We have all seen recurrences after nine or ten years following cystocele operations well performed. It requires at least that length of time to demonstrate the permanent value of any operation for this purpose, and his conviction is that ten years hence only such operations as are based on a knowledge of the anatomy and of the original injury of this region will be acknowledged and accepted by the profession as permanently successful.

In reply to a question Dr. Hirst said he thinks the majority of injuries in the anterior vaginal wall are in the lateral sulci.

Dr. Goffe said that Dr. Chandler thinks that the folds in top of the bladder are dangerous to the ureters and kidneys, but that if he considers this a little longer he will see that they are in the top of the bladder where drainage is perfect and there is no danger of an inflammatory process going

on. Dr. Goffe said that it is in the base of the bladder that his operation smooths out the tissue; that is where inflammations are dangerous to the kidney and ureters. He said that we had elongation of the cervix only in primipara and nullipara, and that the only thing to do is to dissect off the bladder and amputate the cervix. If the cervix is amputated at this point, there is a certain amount of superfluous tissue at the base of the bladder that must be disposed of. He does that by raising up the bladder, but, of course, that is only in a limited number of cases. In the majority of cases, such as Dr. Hirst describes, in multipara, the injuries are multiple. Dr. Goffe said that Dr. Bovée enters the peritoneal cavity about as often as any surgeon he knows and with equal impunity. Entering through the vagina, dealing with the pelvic peritoneum, is freer from danger than entering through the abdomen; the bladder is not carried up high enough on the broad ligament to interfere with the ovarian artery. Of course, there is a line of union and a scar no matter where the incision is made. He finds that Dr. Stone's attachment of the uterus to the vagina so as to carry the bladder up over it and make the uterus act as a cushion is an admirable procedure in advanced cases of senile women, where the uterus has finished all its functions. He recently had operated on such a case. He turned the uterus beneath the bladder and stitched the fundus fast to the vagina, far down near the neck of the bladder, making a cushion of it on which the bladder could rest. It seemed a very useful purpose to which to put the uterus. Some men in Germany are doing the same thing.

CLINICAL EXPERIENCES WITH THE APPENDICULO-OVARIAN LIGAMENT.*

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Notwithstanding the fact that a rather extensive study of the literature of the subject has convinced me that no such structure as the appendiculo-ovarian ligament, as an independent entity, exists, and that there is neither reason nor professional justice in the association of the name of Clado[1] with the structure thus named by him, I have retained that nomenclature in the title of this paper because, largely through the writings of Durand,[2] the name has become fairly well known to the gynecologists and abdominal surgeons of America.

I can not better justify the above statement of opinion than by quoting directly from the exhaustive monograph of Nagel,[3] in which he says: "The plica genito-enterica, as described by Treitz in 1857, was known long before the work of Clado and Durand, and it is not becoming that this fold should be associated with the name of Clado, as the appendiculo-ovarian ligament, as many authors have associated it, inasmuch as Clado merely mentions it incidentally. The fold under consideration has, like peritoneal folds in general, been described by Treitz, Rouget,[4] and Waldeyer,[5] and later also by Toldt,[6] Jonnesco,[7] Broeseki,[8] Poltauf and the author."[3]

If the appendiculo-ovarian ligament is not an entity existing apart from other portions of the parietal peritoneum, what is it? A careful study of the region comprised within the true pelvis and extending up over the pelvic brim convinces me that it is merely the continuation upward in varying degrees of prominence of the outer end of the infundibulopelvic ligament. A careful observation in each pelvis opened in which the normal arrangement of the peritoneal folds has not been grossly distorted by growths shows that it is utterly impossible, in about one-third of the cases, to demonstrate any connection whatever between the peritoneal folds about the head of the cecum and the true pelvic portion of the infundibulopelvic ligament. In the remaining two-thirds, drawing the cecum upward and putting the infundibulopelvic ligament on the stretch will clearly demonstrate a direct connection through a peritoneal fold between the infundibulopelvic ligament and the fold of peritoneum extending downward from the cecal region to meet it at the pelvic brim. The upper termination of this fold varies; in about one-third of the cases observed it is directly continuous with the lower angle of the meso-appendix, but in many cases runs behind various portions of the cecum, or in some cases the mesentery of the ileum, and has no manifest relation with the appendix whatever.

An important element in the production of confusion in the study of this structure is the variety of names under which various authors have described it. Beginning with Treitz, it was called the genito-enteric fold. Since this time the Germans have generally spoken of it by this name, or perhaps even more commonly as the *Ligamentum suspensorium ovarii*. The French have either followed Rouget, and called it the superior round ligament, or more recently, following Clado[1] and Durand,[2] have called it the appendiculo-ovarian ligament. In this country it has been most commonly called the appendiculo-ovarian or lumbo-ovarian ligament. Careful study proves conclusively that the structures mentioned under these various names are identical.

Much error has arisen from the ambiguity of Clado's[1] original description, in which he says: "On raising the appendix it is seen that a peritoneal fold is formed which is continuous with the superior border of the broad ligament at its superior concavity. It is falciform, with its narrowest part corresponding to the iliac vessels, and measures at this point only one or two centimeters in height." How this has caused confusion is seen later.

Clado's writing was given greater prominence three years later by the more specific work of Durand,[2] who says: "The ovary is attached to the posterior part of the lateral wall of the pelvis by a ligament which suspends, in a measure, its outer extremity. This agent of fixation has been described under different names. Henle calls it the infundibulopelvic ligament; Rouget[4] gives it the name of superior round ligament; Clado calls it the appendiculo-ovarian ligament, while others call it simply the lumbo-ovarian ligament."

Durand further states that the appendiculo-ovarian ligament may take its origin:

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. J. H. Carstens, A. Palmer Dudley and L. H. Dunning.

1. Clado: Appendice caecal; anatomie; embryologie; anatomie comparé; bacteriologie, normal et pathologique, Comptes Rendu, Soc. de Biol. de Paris, 1892, pp. 133-172.

2. Durand: Le ligament appendiculo-ovarienne (appendiculo-ovarien de Clado), Contribution a l'étude du ligament large, Prog. Méd., Paris, 1895, s. 3, vol. ii, pp. 1-4.

3. Nagel: Beitrag zur Anatomie der weiblichen Beckenorgane, Archiv f. Gynäk., Leipzig, 1897, vol. liii, pp. 557-627.

4. Rouget: Recherches sur les organes erectiles de la femme, et sur l'appariel musculaire tubo-ovarien, dans leur rapports avec l'ovoulation et la menstruation, Jour. de Physiologie, Paris, 1858, vol. i, pp. 320, 479, 735.

5. Waldeyer: Beitrage zur Kenntniss d. Lage d. weiblichen Beckenorgane, Bonne, 1892.

6. Toldt: Ban u. Wachstumveranderungen d. Gekrose des menchlischen Darmcanals, Denkschr. d. Kaiserl. Acad. d. Wissench., vol. xli, Wien, 1879.

7. Jonnesco et Juvara: Anatomie des ligaments de l'appendice vermiculaire et de la fossette ileo-appendiculaire, Prog. Méd., Paris, 1894, s. 2, vol. xix, pp. 273, 303, 322, 353, 369.

8. Broeseki: Ueber intraabdominale (retroperitoneale) Hernien und Bauchfelitaschen, Berlin, 1891.

1. From the meso-appendix; this is most frequently the case.

2. From the peritoneum which envelopes the terminal portion of the ileum.

3. Exceptionally, behind the head of the cecum.

From a careful study of the embryologic origin of this structure, as described so lucidly by Treitz, Hammerschlag,[9] Nagel[3] and others, it is quite evident that it is an error to speak of this fold as taking its origin from anywhere in the lower part of the abdominal cavity. It is certain that this fold marks the path followed by the ovary and its vessels in their descent from their place of first appearance in the Wolffian body, high up near the liver and kidney, and that Nagel is correct when he says: "The *Ligamentum suspensorium ovarii* springs, developmentally, from the phrenic ligament of the kidney, being, therefore, naturally situated on the posterior abdominal wall." He further remarks that the spermatic vessels, lymphatics and nerves constitute the essential causal element and foundation of this fold, later to become the suspensory ligament of the ovary.

From the above description, which confirmation by many competent observers leads me to accept as correct, it seems grossly inaccurate to speak of the origin of this ligament in connection with the appendix. The cecum and appendix are also formed high up in the region of the right kidney and liver, where they remain until a relatively late period of fetal life, arriving in the iliac fossa only at about the six month. In their descent they follow the same path as that taken by the ovary. It, therefore, seems apparent that the point of disappearance of the suspensory ligament will depend entirely on the position which the cecum finally assumes as permanent with relation to the path of descent of the ovary. Both structures traveling downward retroperitoneally, it inevitably follows that the more bulky cecum will at a given but variable point, cause such a lateral tension of the peritoneum as to obliterate the lesser fold produced by the ovary and its vessels. We should, therefore, speak of the point about the cecum or pelvic brim as that at which the suspensory ligament becomes indistinguishable rather than that at which it arises.

Many authors could be quoted to sustain this view, but two of those better known to all will suffice. Abel[10] says: "The ovary is suspended between the suspensory ligament of the ovary (running to the cecum and the vermiform appendix on the right side and to the sigmoid flexure on the left), and the ovarian ligament (running to the uterus)." He thus distinctly marks the disappearance rather than the origin of the ligament in the iliac region.

Lockwood,[11] too, perhaps unconsciously, confirms this view when he says: "This (the appendiculo-ovarian ligament of Clado), is a fold of peritoneum which is prolonged upward and outward from the infundibulopelvic ligament to the meso-appendix, and I would add, in some cases, to the cecum and mesentery."

If this view of the situation be correct, it would seem that any such lymphatic connection between the uterus and its appendages and the appendix as Clado described would be incidental and dependent entirely on anastomoses between the two sets of vessels after their migration was complete, and might or might not exist in any given case. Therefore, even though the extra-pelvic portion of the suspensory ligament—as I prefer to designate this fold—be well marked, there would not necessarily be any clinical connection between the right uterine appendages and the appendix vermiformis.

Clinically, this view receives ample support because, since beginning the study of this subject, several cases have been personally observed in which, notwithstanding the existence of a well-marked extra-pelvic ligament and suppuration going on at one or the other end of it, the ligament was in no way involved and was apparently of not the slightest clinical significance in the case.

The literature of the anatomy, embryology and pathology of this structure, when divorced from the specific name of appendiculo-ovarian ligament, is enormous, but on turning to the clinical side of the question it is equally meager. To Clado its clinical significance depended entirely on the ability of its lymphatics to convey infection from the uterine appendages to the appendix, and *vice versa*.

Fraenkel[12] quotes Treub, Olshausen and Stratz as reporting cases in which the "plica genito-ovarian" played such a clinical part.

Charpy[13] speaks of the significance of this upward extension of the broad ligament in determining the reason for the so frequent association of broad ligament and iliac suppurations.

Kustner[14] speaks of the contraction of the suspensory ligament of the ovary as causing a certain degree of uterine torsion.

Deaver[15] speaks of the appendiculo-ovarian ligament as constituting a close bond, clinically, between the appendix and the right appendages.

Graves[16] considers this structure, under the name of the lumbo-ovarian ligament, capable of producing retrodisplacements of the uterus in cases in which the descent of the ovary has been incomplete.

While many cases have been personally observed in which extra-pelvic portions of the suspensory ligament could be plainly demonstrated, I have observed only five, with a problematical sixth, cases in which this structure was of actual clinical importance. The sixth is spoken of as problematical because not yet confirmed by operation.

The histories of these six cases are as follows:

CASE 1.—Mrs. E. H. McL., private patient, Feb. 2, 1902; aged 35, married three years; never pregnant; would be glad to have children. Husband healthy. Father living. Mother died of consumption. No other tuberculosis in the family.

History.—When 17 she fell down stairs during menstruation; this stopped the flow and caused much neuralgic pain. Catamenia began at 13. Always regular but painful during girlhood; no pain now. Flow lasts five days, using from twelve to fifteen napkins and having some clots. Last menstruation on Jan. 6, 1902, exactly on time. Developed la grippe on first day of flow and flow ceased for three days, after which it was resumed and its course was normal. She has much distress in base of brain and has stiff neck. Not much backache, but

9. Hammerschlag: Die Lage des Eierstocks, Zeitschr. f. Geburt. Leipzig, 1897, vol. xxxvii, pp. 462-479.

10. Abel: Gynecological Pathology, 1901, p. 139.

11. Lockwood: Appendicitis; Its Pathology and Surgery, 1901, vol. viii, No. 17, p. 201.

12. Fraenkel: Die Appendicitis in ihren Beziehungen zur Geburtshilfe und Gynäkologie, Samml. klin. Vort., Leipzig, 1898, n. F., p. 229.

13. Charpy: De la structure des ligaments larges et leurs abces., Lyon Med., 1886, vol. lIii, pp. 337, 381.

14. Kustner: Lage- und bewegungs-Anomalien des Uterus und seiner Nachbarorgane, Handb. d. Gynäk., Wiesb., 1897, vol. i, pp. 63-229.

15. Deaver: Appendicitis in Relation to Disease of the Uterine Adnexæ and Pregnancy, Trans. Amer. Assn. Obst. and Gyn., Philadelphia, 1897, vol. x, pp. 362-372.

16. Graves: Incomplete Descent of the Ovary and Persistence of the Lumbo-ovarian Ligament as a Cause of Retrodeviations of the Uterus, Bul. Free Hosp. for Women, Boston, 1903, vol. i, pp. 14-17.

back is not strong. She has much pain in both iliac regions, which is relieved by drawing up the thighs. She has a small inguinal hernia on the left side. There is considerable pain of a dragging character high up in the right hypochondrium. Nearly constant leucorrhea, "bearing down" pains and marked dyspareunia, which was not present in the earlier part of matrimonial life, but which is steadily increasing. Micturition is frequent and considerable in quantity, requiring her to rise once or twice each night. Urine looks clear; there is occasionally painful smarting after urination. She has flatulent dyspepsia; bowels usually regular. She drinks three cups of tea a day. Appetite is variable and she is very nervous. She sleeps well, but is not rested in the morning, and dreams constantly.

Physical Examination.—Slight cardiac hypertrophy. Right kidney low but not freely movable. Considerable tenderness over appendix. Uterus normal size; cervix anteflexed. Thickening in left side, which might be thickened broad ligament or a small prolapsed ovary. Right ovary large, low, close to postero-lateral aspect of the uterus. Utero-sacral ligaments short and sensitive. Under date of April 6, 1902, following entry appears: Has been ill with severe pain in the right hypochondriac region, extending up into the right shoulder. Now has tenderness over the site of the gall bladder. Pelvic condition as when last seen.

Operation.—April 12, 1902. Median incision. Many loops of small intestine bound down to right tube and ovary by soft adhesion, easily separated. Right broad ligament presents a broad triangular surface superiorly. This surface was divided into three distinct ridges with two fossæ between them. The anterior ridge was produced by the round ligament, the middle one by the tube and the posterior by the ovarian vessels. This posterior fold was the analogue of the suspensory ligament of the ovary and was unique in that the ovarian vessels ran in its free border instead of, as usual, in the deeper portion, and they persisted in its free border, quite away from the posterior abdominal wall, to the point of their disappearance behind the cecum and base of the mesoappendix. The ovarian vessels were of normal size and could be traced high up behind the ascending colon. A second artery ran in the anterior ridge below the round ligament nearly as large as the ovarian and seemed to be an anomalous origin of the deep epigastric. The ovary, large and of unhealthy appearance, was on the posterior aspect of the broad ligament, low down close to the uterus. Marked tension and thickening of the entire broad ligament, and especially of the extra-pelvic portion of the suspensory ligament was plainly manifest. The left tube and round ligament were entirely absent, the left border of the uterus being perfectly smooth and round. The broad ligament extended only slightly above the level of the internal os and was firm and strong, and contained in its depths what felt as though it might have been a small rudimentary ovary, although nothing in the left side of the pelvis gave the slightest evidence of an ovary having descended through it.

A relatively large V-shaped piece was excised from the suspensory ligament just below the pelvic brim and all but a small, comparatively healthy portion of the right ovary was removed. Exploration of the gall bladder and kidney showed them to be apparently entirely normal. Appendix normal.

The subsequent history of the patient has been excellent and I have heard from her frequently. The right hypochondriac pain has never appeared since the operation and appears to have been the direct result of the downward traction on the vessels.

CASE 2.—Miss A. T., referred to me at my clinic at the outpatient department of the Free Hospital for Women by Dr. Johnston; aged 28; single; worked in carpet works; heavy work. Family and past history irrelevant.

Present History.—For the past two months she has had nearly constant pain in the right loin, which is worse when fatigued. She was obliged to give up work over a month ago. First catamenia at 13. Always regular and always painful. Pain one day before and relieved by flow. Duration, three days, requiring four napkins. Last catamenia May 6, 1903, exactly on time. Rectum feels sore as though something were pressing on it. Bowels inactive. Micturition normal. Appetite and digestion good. Very nervous. Has a constant burning sensation in the gluteal region, which is aggravated by sitting. Poorly nourished.

Physical Examination.—Chest and abdomen negative except that abdominal muscles seem lacking in tone. Marked tenderness at McBurney's point, and a band can be plainly felt extending from cecal region down into right true pelvis. Uterus drawn a little backward and far to the right. Cervix anteflexed and undeveloped. Right ovary high up.

The preoperative diagnosis made to Dr. Johnston was that of chronic appendicitis with a strong probability of the existence of an appendiculo-ovarian ligament of Clado in a state of pathologic contraction. With the consent of Dr. Johnston I referred this patient for operation to a surgeon whom I knew to be engaged in the investigation of the appendiculo-ovarian ligament, thinking he would be glad of the case. Much to my astonishment, a little later Dr. Johnston reappeared with Miss T., saying that the surgeon mentioned said that there was nothing the matter beyond a general run-down condition and that a rest and vacation would make her all right in a short time. Inasmuch as the patient had been under his care constantly for four months and had done no work for one month and was steadily growing worse, Dr. Johnston was indignant.

Operation.—May 22, 1903. Present, beside my regular assistants and nurse, Drs. Johnston and Badger. Appendix was found bound down to posterior aspect of the head of the cecum, which was relatively long below the ileocecal junction. From the base of the mesocolon the extrapelvic portion of the suspensory ligament was clearly defined, exactly confirming the physical diagnosis. The appendix and a V-shaped piece of the ligament were removed. The pelvic organs were otherwise normal and not involved in the operation.

Result.—Just one year from the date of operation I called up Dr. Johnston and he assured me that Miss T. had been entirely relieved by the operation; that two months from the day of operation she resumed light work with her old employers, and has now for six months been at her old heavy employment in the enjoyment of perfect health.

This is, so far as I am able to learn, the first case recorded in which the existence of the appendiculo-ovarian ligament, so called, was made before operation.

CASE 3.—Mrs. C. E. S., private patient referred to me by Dr. E. S. Winslow of Orange, Mass; aged 23; married six years and has had two children and three miscarriages. Older child 4 years and younger 3 years old.

History.—First miscarriage at three and one-half months, second at four months and third at only a few weeks. First procured. In bed ten days after first child, seven days after second, and only two or three days after the miscarriages, which were accompanied by considerable hemorrhage. First catamenia at 12. Irregular during first two or three years. Pain variable in amount for one or two days before and first day of flow. Duration of flow from four to five days. Last catamenia just ended. Has had typhoid fever and several attacks of pneumonia, and had diphtheria three years ago. Present trouble began after first child and has been worse since the second. The miscarriages have all occurred since the second child and have added to her ill-health. Much pain in sacral and right iliac region, and also some pain in the right hypogastrium and in the left iliac region. She has attacks of severe pain in the epigastrium, and has pelvic "bearing down" pain. Leucorrhea not constant but produced by exertion. Micturition normal. Bowels inactive. Appetite variable. Digestion poor; pain after eating. Sleeps poorly. Lying in bed makes back and side ache worse. Dyspareunia, causing more pain on right than on left.

Physical Examination.—Heart normal. Slight bronchitis. Right kidney very much enlarged. Perineum torn. Wall between vagina and rectum very thin in median line of perineum. Cervix lacerated and everted, but not much eroded. Uterus in normal axis, but drawn to right and slightly enlarged. Left

ovary enlarged and very tender, but not prolapsed beyond the utero-sacral ligament. Right ovary enlarged and apparently cystic and not freely movable. Very tender. Moderate tenderness starting at McBurney's point and increasing as pelvis is approached. No tenderness at Boas' point.

Operation.—Jan. 9, 1904. Dilated and curetted uterus. Trachelorrhaphy and perineorrhaphy. Median abdominal incision and both ovaries suspended to uterine cornua after removing cystic portion of the right one and removing a V-shaped piece from the thick, tense extra-pelvic portion of the suspensory ligament. Exploration showed appendix normal, but angulated by downward traction by suspensory ligament, which was entirely freed by the above mentioned exsection. The appendix was not removed. The mass supposed, on physical examination, to have been an enlarged, movable kidney, was found to be a rolled-up mass of omentum. Adherent to several loops of small intestine and to the ascending colon. Without the removal of any organs this patient is reported as recovered and back at her work after five months.

CASE 4.—Mrs. W. R. C., private patient, aged 35; married six years. One child six and one-half years ago. No miscarriages. Family history irrelevant. Present trouble began in 1896.

History.—Got her feet wet during menstrual period and flow ceased suddenly with severe pain in hypogastrium and both iliac regions. First catamenia at 14 and always regular. Pain was slight at first, but was worse after undertaking a sedentary occupation. Later standing also produced pain in lower abdomen and back. Flow lasts two or three days, requiring five or six napkins. Lately it is more profuse and lasts longer. Last catamenia started Feb. 12, 1904, and on going out in a storm on February 15 she became wet and chilled and the flow ceased and pain has been severe ever since (four days). Pain in lower abdomen and back is constant, of a dull, aching character. There is also a "bearing down" pelvic pain, and a sensation of dragging in the right side. Little inconstant leucorrhea. Bowels inactive, probably partly due to large quantities of opiates required for pain. Micturition frequent. Frequent frontal headaches. Appetite and digestion variable.

Physical Examination.—Heart normal except for accentuation of aortic second sound. Abdomen shows abnormal tenderness at McBurney's point extending continuously down to ovarian region. Colon much loaded. Uterus slightly anteflexed and a very little drawn to the right. Perineum intact. Cervix shows fair result of trachelorrhaphy done in September 1903, at Homeopathic Hospital.

Operation.—April 9, 1904. Uterus, both tubes and both ovaries and rectum matted together in posterior part of pelvis. Right ovary completely degenerated with an outgrowth from one side. Left ovary hard and cirrhotic. Both tubes nodular and occluded. Extra-pelvic portion of suspensory ligament very prominent, thick and tense. Appendix normal and not removed. Both tubes and both ovaries removed; suspensory ligament completely relaxed after removal of right ovary. Patient has required no opiates since operation and, although too early to speak of ultimate results, she is already in much better health than for years. There is neither pain nor tenderness in the appendicular region.

CASE 5.—Mrs. N., operated on at the Free Hospital for Women, Nov. 27, 1903. The long hospital history is abbreviated because irrelevant, as regards the structure under consideration, except for the existence of right iliac pain and the manifestation of tenderness about the appendicular region extending down to the ovarian region. The traction of the tense extra-pelvic portion of the suspensory ligament, transmitted through the mesoappendix, produced a sharp angulation of the appendix, which angulation disappeared on severing the ligament. The subsequent history of this case is not known.

CASE 6.—Mrs. A. D., patient of Dr. Farnum of Randolph, Mass. Has the history of right iliac pain with tenderness extending continuously into the right ovarian region and a band can be felt similar to that which determined the diagnosis in Case 2. This case is, however, as yet of no value, in the present connection, as the diagnosis lacks operative confirmation.

These cases possess several points in common which should serve as diagnostic guides in the future. There is, first, the tenderness starting high up in the right iliac region and extending continuously down to the true pelvis; second, there is the sense of dragging in the iliac region; third, there is the more or less pronounced displacement of the uterus to the side of the pelvis in which the contracted ligament exists. In every case, instead of the tenderness being localized about the appendix or instead of having, as is so often the case, an area of tenderness at the appendix and another lower down in the ovarian region, the tenderness has been found continuous.

The studies of Rouget,[4] Testut[17] and Sappy, among others, show conclusively that there is a very considerable amount of smooth muscle fiber in the suspensory ligaments, and any irritation at either end of this ligament may produce contraction of these fibers, which may bring it into no slight clinical importance. One fact in the clinical significance of this structure seems to me to have been misinterpreted by some authors, namely, the ability of this structure to cause retrodisplacement of the uterus.

We ordinarily think of the broad ligaments as extending out, nearly transversely, to the pelvic walls and of the appendiculo-ovarian ligament as a band coming down from above to join the superior border of the broad ligament. This, of course, would convey the impression that shortening of the appendiculo-ovarian ligament would pull the top of the broad ligament toward the posterior wall of the pelvis, which would, equally, of course, produce retroversion. When, however, the anatomy is carefully studied, and it is realized that the so-called appendiculo-ovarian ligament is in reality but the extra-pelvic continuation of the infundibulopelvic portion of the broad ligament, it is easily seen that the only uterine displacement which tension on this band alone can cause is exactly identical with tension on the remainder of the broad ligament, namely, lateral deviation with possibly slight torsion, as noted by Kustner, and as exemplified in each of the above cases.

It is also manifestly a fact that this structure is as liable, anatomically, to become of clinical importance on the left side as on the right, although, so far as I have been able to learn, no instance of this has as yet been reported.

The fact that in all but one of my cases the appendix appeared normal, and on being left in the abdomen has given rise to no symptoms, seems to negative the tentative opinion that the existence of the appendix on the right side makes that ligament more liable to irritation.

In all these cases the extra-pelvic portion of the suspensory ligament of the ovary, or as more commonly known in American and English medical literature, the infundibulopelvic ligament, certainly was an important clinical factor, and in three of the cases was apparently the only disease-producing factor.

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17. Testut: Organes Genitaux de la Femme, Traite d'Anatomie, Humaine, Paris, 1901, pp. 783-896.

The Surgery of the Ancients.—At a recent meeting in Athens M. Smyrniotis exhibited some surgical instruments from a tomb near the long wall of the Piraeus, dating from about the first century A. D. Many of these are similar to those now in use and he thought they gave evidence of an eminent surgeon, now unknown, who resided there nearly 2,000 years ago.

PELVIC DEFORMITY.*

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Pregnancy or labor complicated by pelvic deformity will always be of great interest to the obstetrician. As the subject is one that has attracted attention from the earliest times, it would now seem that the ground had been pretty well covered, but there still exists some difference of opinion in regard to the treatment of these cases.

My conclusions are the result of following the work of the Philadelphia Lying-in Charity Hospital for the past fifteen years, during which time over 10,000 cases have been cared for in its various departments. The hospital, owing to its central location, does a large amount of emergency work, many of the cases entering at the end of gestation, and some already in labor.

When the American Medical Association last met at Atlantic City, in 1900, I presented to this Section a paper entitled "The Classical Cesarean versus the Porro Cesarean." In that paper[1] I reported six successful cases for pelvic deformity. Since that date I have had six additional cases, all successful to mother and child. Five of the latter cases have also been reported, and I will in this paper place the twelfth on record.

Sufficient material is now at our command to enable us to better approximate the frequency of pelvic deformity in this country. Reynolds[2] reported that he had observed 1.34 per cent. of contracted pelves in 2,227 women delivered in Boston. This percentage is estimated from the cases requiring operative interference, and does not include those delivered spontaneously. Edgar states that the frequency of contracted pelves in native-born American women has been estimated at 2 per cent., and among foreign-born women at 6 per cent.

In a study of the records of the Philadelphia Lying-in Charity Hospital for the past ten years (1894 to 1904), we find 3,224 deliveries, with but 76 cases, or 2.5 per cent., of deformity of the pelvis demanding surgical interference. As in Reynold's report, this study does not include cases of pelvic deformities delivered spontaneously.

Williams[3] reports that he has met with 131 contracted pelves in the first 1,000 women delivered in the lying-in department of the Johns Hopkins Hospital. In June, 1901, he gives the results obtained in 1,123 additional cases, which showed exactly the same percentage as in the previous report. A total of 2,133 cases with a percentage of 13.1. He states that one reason for the marked frequency of contracted pelves in Baltimore is probably due to the fact that more than half of the patients are colored, 941 in the entire series being white and 1,182 black women. In the former he found 6.9 per cent., and in the latter 18.82 per cent. of contracted pelves.

From the study of these reports we find pelvic contraction occurs in 7 or 8 per cent. of white women in America, and only in 2 per cent. of cases studied from the standpoint of demanding surgical interference.

It is evident that no one can practice obstetrics without meeting some such cases. Although pelvic deformity is primarily readily diagnosed, the more so the greater the deformity, the habit of forming quick judgment is not justifiable, as the extent and nature of the malformations are not easily ascertained, and a more general use of the pelvimeter will lead to an earlier recognition of pelvic deformity. While the pelvimeter is invaluable in securing accurate measurements of the external pelvis, the difficulties of determining the capacity of the pelvis by present methods are easily recognized. Fatalities have resulted where most careful measurements made on the living patient showed errors ofttimes of over half an inch at the postmortem. Recognizing the inaccuracy of pelvic measurements, either by means of the pelvimeter or manually, we acknowledge the truth in Barbour's comprehensive opinion, "the fetal head is the best pelvimeter."

Müller's method of estimating the relative disproportion between the pelvis and fetal head, and Kerr's modification of this method, are not always reliable. The cephalometer of Perret and Budin, by which an attempt is made to measure externally the biparietal diameter, must necessarily also be unreliable.

What we are interested in is not so much the variety and degree of pelvic deformity, but whether the passenger is or is not too great for the passageway.

In the cases of great deformity, which are rare, the diagnosis is easy and the course to pursue clear, but in the larger group of cases of moderate deformity, it is not possible to accurately estimate the disproportion between the pelvis and the fetal head.

TREATMENT.

In pelves of great degree of deformity, the treatment is not so difficult; the forceps, symphysiotomy and cesarean section with the living child, and craniotomy if the child is dead, must be resorted to. In the larger group of cases, however, there exists only a moderate degree of contraction, and in this class great judgment must be exercised. The proper solution of the problem will depend on the study of many factors: 1, Whether one first sees the case during pregnancy or after labor has commenced; 2, the general condition of the mother; 3, the nature of the presentation; 4, condition of the fetal heart; 5, multiple pregnancy.

It is not my desire to take up each method of treatment. There is one, however, concerning which there exists a difference of opinion, namely, the induction of premature labor. The advocates of this method of treatment recommend it in minor degrees of pelvic contraction.

The induction of premature labor would be ideal were it possible to accurately measure the length of the period of gestation. I have never been able to satisfy myself that this is possible, and prefer to permit the patient to go to term.

Hirst,[4] favoring the induction of labor, says: "If the conjugate diameter measures as low as 9.5 cm., it is a safe plan to induce labor four weeks before the expected term of pregnancy."

Norris[5] states that he is inclined to feel that cesarean section is too frequently resorted to; he reports 29 cases of induced labor with no maternal mortality; and only 10 per cent. fetal mortality. He would resort to induction of labor only in pelves of minor degree of contraction.

Reynolds, Williams and Edgar, on the other hand, pre-

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. J. H. Carstens, A. Palmer Dudley and L. H. Dunning.

1. THE JOURNAL A. M. A., May 4, 1901, p. 1242.
2. Transactions of the American Gynecological Society, 1890.
3. Obstetrics, 1899, Nos. 5-6.
4. Text-book of Obstetrics.
5. The Ultimate Results of Inducing Labor for Minor Pelvic Deformities, read before the Philadelphia Obstetrical Society, June 2, 1904.

fer to permit the patient to go to term, giving her the trial of labor, and then instituting the method of delivery most expedient.

The high fetal mortality, and the difficulty of estimating the length of gestation, has led many to follow the expectant plan. Kleinwochter, after an exhaustive study of the subject, concludes that 78.3 per cent. of the children are born alive, but that many of them die soon after birth, and only 60.4 per cent. leave the hospital in good condition.

Is the induction of premature labor justifiable admitting the difficulty of estimating the length of gestation?

My experience has not been as satisfactory as that of those who advocate this operation. Even with a clear menstrual history, we must admit the fact that the patient may have conceived at any time before the next menstrual epoch, a period covering three weeks. Then, again, in some cases it is impossible to get the menstrual history. These cases must, of course, be excluded from this method of treatment. Again, the methods of inducing labor are not always satisfactory. The Simpson method, the introduction of one or two bougies into the uterus, does not always bring on labor promptly; the bougies sometimes rupture the membranes, and in some cases necessitates hydrostatic methods by dilatation. I therefore feel that I can best serve my patient by permitting her to go to term.

How frequently we have all prepared for a difficult forceps operation, version, symphysiotomy, and even cesarean section, only to have the patient spontaneously deliver herself. Admitting this fact, how, then, can one, four weeks before the end of gestation, feel sure that the induction of premature labor is indicated? Each case must be a study in itself. In the primipara the course to pursue will be more intricate than in the multipara, where we have the history of the previous labor to guide us. In the majority of cases the forceps will suffice; failing in this method, version is indicated, or cesarean section in the exceptional cases.

In reviewing my eleven cesarean sections, I find that in seven of the cases they were given the test of labor. The twelfth case, with the following history, was an elective operation:

Mrs. —, a negress and primipara, aged 18 years, an American, was admitted to the Medico-Chirurgical Hospital, Oct. 3, 1903.

Her last menstrual period was Feb. 22, 1903, and from her own calculation she expected her confinement November 29. The patient showed marked evidences of congenital rhachitis and gave a clear history of same. She had the characteristic general bony and pelvic deformities.

The following measurements of the pelvis were made: Interspinus measurement, 22 cm.; intercrestal measurement, 22 cm.; external conjugate measurement, 16 cm.; diagonal conjugate measurement, 7.5 cm.; true conjugate measurement, 6 cm.

The elective cesarean section was performed for the absolute indication. The patient made an uneventful recovery and left the hospital Dec. 15, 1903, in good condition.

CONCLUSIONS.

In conclusion I would say:

1. The fetal head is the only trustworthy pelvimeter.

2. It is essential to give the patient the test of labor in the majority of cases of moderate pelvic deformity.

3. It is the duty of the practitioner in attendance on a multipara with the history of one or more dead children to be prepared to perform cesarean section. If he does not possess the necessary surgical training, he should call to his assistance the obstetric surgeon.

1909 Spruce Street.

DISCUSSION.

DR. C. S. BACON, Chicago—The most important point in Dr. Boyd's paper is the objection to the induction of labor for contracted pelvis. The objections that he makes to the operation of inducing labor are the difficulty of determining the length of gestation, the difficulty of the operation and the unsatisfactory results. In regard to the length of gestation, I believe that is not so difficult as Dr. Boyd intimates. In the majority of cases we know the date of the last menstruation, and, if we take a careful history, we can often find the date of conception. If we will note the time of the beginning of the morning sickness, and the time of the first fetal movements, we have two very important data. It is not usual for the morning sickness to begin before the third or fourth week after conception, and it is uncommon for it to begin very much after the seventh or eighth week. That gives us a period of uncertainty of only two or four weeks. Then, as a rule, the fetal movements begin about the eighteenth or nineteenth week of pregnancy. And if we have this date we are not more than two or three weeks away from the date of the termination of the labor, provided it terminates at the usual time. With regard to inducing labor, the use of the bougie frequently is slow, but the bougie, combined with the metreurynter, after the first twelve or twenty-four hours, is a reasonably rapid method, and it is no real objection to the operation. With regard to the results, the mortality of the children often is high, but principally because they are not taken care of properly. No one should induce labor in contracted pelvis without taking all precautions to save the child. With a good incubator and a trained nurse there is little difficulty in raising the child, if it is thirty-four weeks old, and often when it is only thirty-three or thirty-two weeks old. With such results to be obtained, it would seem that this method should not be abandoned. Of course, there is the test of labor which Dr. Boyd mentioned. That is always necessary. One should not induce labor for the first child. But with a moderate degree of contraction, with the history of the first labor, where, perhaps, a dead child was delivered with forceps, the induction of labor at any time between the thirty-second and thirty-sixth week is a method worth considering. Those who will follow this out carefully will have results that will not justify the conclusions at which Dr. Boyd has arrived.

DR. ROSA WISS, Meridian, Miss.—I am glad to hear Dr. Boyd say that it is only fair to the patient to give nature a chance. Some time ago I was called to a case when the labor was in progress. The patient was 40 years old and had never had a child. She had been married three times, and this was her first pregnancy. She lived in a squalid home, and I had nothing at hand for the performance of a radical operation. I made an examination and found a masculine contracted pelvis. I told her husband that I had little hope, but would do all I could. I sent for the nearest physician to help me. The labor progressed rapidly but with severe pains until the head reached the floor of the pelvis, when we had trouble. While the physician was preparing his instruments in the next room I introduced my hand and pressed on the child's head. While I was doing this the woman had a very hard pain and the head came down a little. I continued the pressure, and, much to my surprise, the woman delivered herself of an eight and a half pound child, which began to cry before the whole body was delivered. The perineum was not torn, and the patient made a rapid and uneventful recovery. Two years later I was called again, but before I could reach the house the child had been born.

DR. FRANK CARY, Chicago—I was very much pleased to hear Dr. Boyd advocate the expectant plan; there are, however, a few points that he did not mention and which are important. We know that cases with quite contracted pelves frequently deliver themselves normally, sufficient time being allowed. I have in mind a case I saw in Schauta's clinic on which a cesarean section was performed successfully. Within two years she presented herself again, but refused absolutely to have another section. After a long and tedious labor she was delivered of a living child, showing that these cases can

terminate normally. I want to put in a plea for this, i. e., consider the relative size of the child's head and degree of ossification of cranial bones before resorting to cesarean section on pelvic measurements alone.

DR. GEORGE BOYD—I do not wish to condemn the induction of labor, but I maintain that I am unable to judge when it is right to perform the operation, because I can not measure the length of gestation, and, I believe, we never will be able to do so. A miscalculation of two or three weeks means much. In one way the induction of labor is of no value, and in the other the baby has not reached the stage of viability and will not live, even with the best of care. Only recently I saw a photograph of a patient in whom there existed a degree of pelvic deformity so great that the attendant felt that it was beyond the induction of labor, and that there might be a necessity for performing a cesarean section. That same patient was delivered in easy labor. If premature labor had been instituted that operation would have received the credit for the delivery. I can not decide what to do before the patient comes to term, and particularly in cases of moderate degree of contraction. Dr. Cary speaks of the necessity of studying the size of the head. I mentioned Mueller's method, which consists of pressing the head into the pelvis, in that way hoping to approximate the amount of disproportion between the fetal head and the pelvis. I have always tried to study the size of the child's head, but even with that precaution, in a case in which the head is high and apparently movable at the brim, or high and not movable, give that patient five or six, or even eight hours labor, and you will be surprised to find the head in some cases well down in the pelvis.

IS CESAREAN SECTION A RATIONAL METHOD OF TREATMENT IN PLACENTA PREVIA?*

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The importance of this subject is not from its frequency, but from the emergency of the situation, which demands early recognition and prompt decision by the physician, in that it involves the lives of both mother and unborn child, and, as regards himself, points of professional honor and conscience. In the complications that confront the obstetrician there is none that is fraught with more danger or attended with greater anxiety than placenta previa, save, perhaps, eclampsia. Its sudden onset, often alarming hemorrhage and consequent anemia, shock, and possible sepsis present a formidable array of difficulties that even in the hands of the most skillful has been attended with a high maternal and fetal mortality. It is true that in recent years, with more definite method of treatment and advances in asepsis and antisepsis, the maternal death rate has been greatly lessened, but the extraordinarily high proportion of infants lost remains unchanged.

If we analyze the statistics, we can not fail to recognize that it is the lateral and marginal varieties that have contributed largely to this improved showing by directly sacrificing the life of the child by using it as a plug to control the hemorrhage. In central implantation, modern methods have not materially affected the death rate. It was quite natural, then, that other measures would be evolved with the hope of reducing the frightful infant mortality, while still not decreasing, if not improving, the chances of the mother. Hence for more than a decade from time to time the justifiability of cesarean section in certain cases of placenta previa, in the interest of the child as well as of the mother, has claimed the attention of the medical profession. Ford,[1] Dudley,[2] Zinke,[3] Boyd[4] and others have recommended it on theoretical grounds, with the conclusion that it is not only justifiable, but indicated in central implantation of the placenta. On the other hand, there are those who are equally positive in their belief that cesarean section has no legitimate field in placenta previa, contending that the mother's life is of paramount importance; and further, that many of the infants will of necessity be born prematurely and likely to succumb shortly after birth. The physician has no moral right to decide between the value of two lives, nor is he in conscience capable of determining whether the child will survive or not. Both are his patients, entitled to his best skill, and he is in honor bound not to deliberately sacrifice the life of one to save the other.

It has been contended also that there is danger of postpartum hemorrhage after section, as the placenta occupies the lower or passive segment of the uterus, which will interfere with its retractility, which, together with the muscular contractility of the uterus, controls hemorrhage under normal conditions. I have carefully studied all of the cases, and find but one instance where it was necessary after doing a Sanger operation to follow it by a Porro on account of hemorrhage. Donohue says that the hemorrhage may be prevented by allowing the uterus to contract and retract, and permitting the centrally or marginally implanted placenta to separate spontaneously. It is also suggested that the same end might be accomplished by packing the uterus with gauze. In a case in which I recently performed cesarean section for contracted pelvis complicated with inertia uteri, in which the uterus remained relaxed, I adopted the latter procedure in conjunction with normal salt solution with excellent results.

My only personal experience with this method of intervention in placenta previa is a case I saw in consultation:

The patient was 31 years of age, had been married nine years and was pregnant for the first time. At four and a half months she bled, again at five and a half months, and again at six months, when she had labor pains. Examination under chloroform disclosed a small vagina, cervix not effaced, and placenta covering the internal os. The vagina was tamponed and patient carried to the hospital. Labor pains increased. The tampon was removed, cervix found to be shorter but os about the same, and the vagina was repacked on account of hemorrhage. Owing to age of patient, small vagina and undilated cervix, I had no hesitation in assenting to section, as in my judgment she would suffer less shock, hemorrhage and traumatism than if attempt was made to deliver per vaginam. The child and placenta were removed through the incision and uterus contracted satisfactorily. The mother made an uneventful recovery.

If any lesson is to be learned from this, it is that the weighing of the factors in each case and decision as to operation should be prompt, and the method of relief performed as speedily as circumstances may permit.

SUMMARY OF CASES REPORTED.

In looking over the literature for placenta previa, I have been able to collect twenty-four cases of cesarean section, performed by twenty-one operators. Seventeen of these were of the complete implantation, two lateral,

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. J. H. Carstens, A. Palmer Dudley and L. H. Dunning.

1. Ford: Amer. Gyn. Jour., September, 1892.
2. Dudley: N. Y. Med. Jour., 1900, lxxii.
3. Zinke: St. Louis Med. Review, 1901, xliv.
4. Boyd: Proceedings Philadelphia Med. Soc., Philadelphia, 1901, xxii.

and in five the variety is not mentioned. Fourteen were operated on according to the Sanger method, seven by the Porro, and three not stated. The majority of these were emergency cases, and were in unfavorable condition from repeated hemorrhage and were operated on after other methods had failed. Of the mothers who died, three died within twenty-four hours of shock; one on fourth day after secondary operation for obstruction of the bowel, and the other of septic peritonitis fifty-six hours after operation.

Nineteen mothers and eleven infants recovered, a mortality of 20.8 per cent. and 54.3 per cent., respectively. Eight of the infants were operated on before viability, or were dead before extraction, and five died from various causes in from several hours to four days after delivery. It is reasonable to suppose that the five that died after birth would have shared the same fate after delivery *per vias naturales,* or might have perished during delivery, though certainly their chances of life were increased by section. This 54 per cent. should not properly be taken as the statistical basis of the operation of the future. In selective cases, when pregnancy is far enough advanced for a viable child, and where the operation is done at once and before protracted bleeding has taken place, the figures will be far better than this.

These cases and the references to the records thereof may be briefly given as follows:

HYPES AND HURLBERT: *Am. Jour. Obstet.*, 1892. Variety of previa and method of operation not given. Mother died; child died.

SLIGH: *Am. Jour. Obstet.*, February, 1892. Carcinoma of cervix with complete previa. Sänger method. Mother died 12 hours after operation; child lived two days.

BERNAYS: THE JOURNAL, May 12, 1894. Complete previa. Sanger method. Mother recovered; child died in 4 hours from asphyxia.

LODEMAN: *Centralblat. f. Gyn.*, 1893. Osteomalacic pelvis and previa (variety not given). Method not given. Mother recovered; child died soon after birth from asphyxia.

LANTHEAR: *Am. Jour. of Surg. and Gyn.*, 1902, vol. xiv, p. 132. Porro operation for infected placenta (4 mos.). Mother recovered; fetus not viable.

TAIT: *Lancet*, London, Feb. 6, 1899. Porro for placenta previa. Both mother and child recovered.

MORRIS: Lecture on Appendicitis, N. Y., 1895, p. 155. Porro operation for marginal placenta pruvia with alarming hemorrhage. Uterus removed with contained fetus. Mother recovered.

MATOLLI: *Archivio Italiano di Ostet. e Gin.*, 1899, No. 4, p. 305. Sanger method for complete previa. Mother recovered; child dead before extraction.

MACCALLA: *Medical Sentinel*, 1900, vol. viii, p. 55. Porro operation for complete previa. Mother recovered; child dead of inanition several days after birth.

DONOGHUE: *Boston Med. and Surg. Jour.*, 1900, No. 11, p. 571. Sanger operation for complete previa. Mother and child recovered.

HARE: *Ibid.*, 1901, No. 1, p. 151. Sanger operation for complete previa. Mother died eleven hours after operation; Child died of inanition twelve days after birth.

COVINGTON: *Cincinnati Lancet Clinic*, 1901, No. 1, p. 558. Sanger operation for complete previa. Both mother and child recovered.

GILLETTE: *Boston Med. and Surg. Jour.*, 1901, vol. ii, p. 9. Porro for complete previa. Both mother and child recovered.

WEBSTER: *Am. Jour. of Obstet.*, 1901, vol. xliii, p. 158. Sanger operation for lateral previa with profuse hemorrhage in a mother 13 years of age. Child well developed. Eight months gestation. Mother recovered; child's fate unknown.

CORBONELLI: *El Progresso Med.*, Torino, 1902, No. 1, p. 158. Porro for complete previa. Both mother and child recovered.

CORBONELLI: *Ibid.* Sanger method for complete previa. Both mother and child recovered.

CORBONELLI: *Ibid.* Porro for complete previa. Mother died 56 hours after operation of septic peritonitis; child stillborn.

CONROY: *Boston Med. and Surg. Jour.*, 1902, vol. cxlvi, p. 634. Sanger method for complete previa. Mother recovered; child stillborn.

DONOGHUE: *Ibid.*, 1902, No. 1, p. 18. Sanger operation for complete previa. Mother died on fourth day after secondary operation for obstruction of bowels; child lived.

OMBONI: *L'Orte Ostetrica*, 1902, vol. xvi, p. 258. Sanger operation for complete previa. Mother and child both recovered.

HOPKINSON: *Amer. Med.*, 1902, No. 1, p. 140. Lateral previa with contracted pelvis. Two previous pregnancies terminated by craniotomy. Both mother and child recovered.

TRUESDALE: *Boston Med. and Surg Jour.*, April, 1903. Placenta previa. Mother recovered, child died.

FRY: *Maryland Med. Jour.*, July, 1903. Sanger operation for complete previa (6 mos.). Mother recovered; child lived 5 hours.

DEAVER: THE JOURNAL, April, 1904. Sanger operation for complete previa. Both mother and child recovered.

GILLETTE: THE JOURNAL, August, 1901, p. 495.

SCHAUTA: Interstate Med. Jour., St. Louis, 1902.

Those who advocate cesarean section for placenta previa seek to justify their contention by the brilliant results obtained by the classical methods in elective cases of contracted pelvis by Reynolds, Zweifel, Leopold, Evert and others, who have reduced the mortality below 2 per cent. This is unfair, however, because the pathologic condition is essentially different, the choice of operation and even diagnosis of lesion radically different, and the results must vary materially. We should only compare section in placenta previa with the results obtained by other methods of intervention, and further, class the latter according as the case was of the partial or complete implantation. This is a difficult matter, however, since statistics are usually gathered from all varieties, and in partial and marginal cases the mortality should not be high. Gillette, in 216 cases collected from various sources, found 88 of the central variety, and in 20 of these the mothers died, or 22.8 per cent.; infants, 66, or 70.5 per cent. Shauta, in 234 cases occurring in his clinic reports, 50 complete implantations with a maternal mortality of 9, or 18 per cent.; infants, 35, or 70 per cent. In 16 cases occurring at Columbia Hospital, 3 were of the complete variety, one patient died, or 33 1/3 per cent. I have had 7 cases, 2 occurring in the same patient; 3 of these were of the central variety. One of the mothers died, and all of the infants of the latter were dead before the cases came under my observation.

From the foregoing figures it will be seen, then, that there is very little difference in the maternal mortality of cesarean section as compared with the various other methods of intervention, while the mortality of the infant has been reduced from 70 per cent. to 53 per cent., and can be still further reduced.

These statistics are yet too small to formulate any fixed rule for guidance regarding the absolute and relative indications of cesarean section for placenta previa; future experience alone can determine. Whether they will be improved on will depend on a more thorough study of the cases during pregnancy, early recognition and prompt action while the patient is still in good condition.

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DISCUSSION.

DR. GEORGE T. HARRISON, New York City—Modern gynecology has gained many triumphs, especially in the direction of surgery, and so successful have modern gynecologic surgeons become that they have brought within the domain of surgery a class of cases to which surgery is really not applicable, so I classify the treatment of placenta previa by cesarean section. I have had a large practice in obstetrics for many years, in lying-in hospitals and in private practice, and I have yet to see the case of placenta previa where any such surgical interference was indicated. I want to plant myself fairly and squarely on the side of the opponents to this operation. There are two dangers that assail a woman when she has placenta previa; death may occur from hemorrhage and from sepsis. With the methods at our command for dilating the uterus, it is an easy matter to bring down a foot, and the hemorrhage is completely under control. The great objection to this method is that you must deliver very slowly. Of course, the child runs some risk, but that risk has been diminished by the use of the balloon, either the Champetier de Ribes, or its modification. I have found that it is better for both mother and child if we ignore the latter. With these methods at our command, I can not see any indication for cesarean section. In a recent number of THE JOURNAL Dr. Deaver tells us that he was called in consultation in a case of placenta previa, and performed the operation of cesarean section. He said that he thought that operation was indicated, but the second reason that induced him to operate was sublime. He said he operated because he was more familiar with the technic of abdominal

surgery than with the methods of podalic version. It is only necessary for a man to give such a reason to confute himself.

DR. A. PALMER DUDLEY, New York City—Dr. Harrison said that he has never seen a case of placenta previa in which cesarean section was justifiable. Let me tell you a story. A poor woman, a few months ago, was expecting her confinement. She felt that there was something wrong about it, and she consulted a physician. He brought in his assistant and they discovered that she had placenta previa. They told her that she was in some danger, but they would watch her and one of them would be ready any moment. In the early morning she was cooking her husband's breakfast when she had a hemorrhage, and before a physician could be called, the woman was dead. There was a case where cesarean section was justifiable, and those two physicians were guilty of criminal neglect. They knew that the woman had placenta previa, and yet they failed to do what they should have done. Every obstetrician should have his obstetric "kit" ready, and in it should be the instruments necessary to make a cesarean section—a knife, a pair of forceps, a ligature, a needle and some silk. Every obstetrician of to-day should be equal to a cesarean section, else he is remiss in his duty. I contend that Dr. Moran has touched a note that will sound over the country. it can not be stopped. The one incident I cited will be sufficient to emphasize my position.

DR. F. F. LAWRENCE, Columbus, Ohio—No reformation ever was effected without there being radical men on both sides. The radical fellow rubbing against other radical fellows wears off the rough edges. However, one thing we must remember, and that is, that the statistics of the best methods of treating placenta previa, as compared with the statistics of cesarean section for placenta previa, makes a very unjust comparison. Why? Because comparatively few of the cases of placenta previa that bled themselves into the grave have been reported. Comparatively few of those who have died out in country towns, or even in the city, from attempts at manual or instrumental dilatation, have been reported. Why? Because the stigma of death in ordinary obstetric practice is felt most keenly by every physician; it is one of the things that will damn the physician quicker than anything else, and it will, therefore, not be reported. But let the case be taken to the hospital for cesarean section or operated on at home, and everybody in the neighborhood knows of it, and the doctor is compelled to place the case on record as an argument in his defense. I wish each and every one of you would take this position: If this were my wife, my daughter, my sister or my mother, what would I want done? We know that the operation of cesarean section can be performed in a very few minutes, and that hemorrhage is under the control of the operator, as is also the matter of sepsis to a great extent. I would not want my wife or daughter—if the victim of this condition—to be denied the life-saving properties of a cesarean section done by a skillful man. One speaker says bring the foot down and the hemorrhage is absolutely controlled. I have been unfortunate enough to see three or four cases in which bringing the foot down did not control the hemorrhage. And why? Because the patient had bled so much before the presenting part was brought into position to act as a plug, that there was inertia of the uterus. These are things that we must consider. It requires only a few minutes for a woman to bleed to such an extent that the uterine muscle will not contract. In placenta previa centralis, cesarean section should in my opinion be the procedure.

DR. RUDOLPH W. HOLMES, Chicago—Dr. Ehrenfest of St. Louis published a paper on this subject a few years ago, in which he stated that the mortality of placenta previa was not so high as was generally believed, and that the mortality of the cesarean operation was greater than we are led to believe by reported statistics. In fact, nearly all the quoted statistics of cesarean section are those with the "corrected" mortality, which, while it eliminates the operations on the unfavorable cases followed by death, does not eliminate like cases which had the good fortune of recovering. For example: Zweifel had 76 conservative sections, with 1 death—by exclusion he makes it 75, with no death; Schauta, 58 cases, with 6 deaths—by exclusion he has 56, with 4 deaths; Leopold, 71 cases, with 7 deaths—by exclusion he makes it 68, with 4 deaths. As placenta previa is rarely diagnosed until the hemorrhage manifests itself, which should not necessarily be the case, the woman is very unfavorably placed for a cesarean section on this indication; therefore, the mortality of placenta previa from infection, when treated by section, will necessarily always be high in comparison to the mortality in sections performed in women with contracted pelves in which a timely diagnosis is made. I believe there is a place for cesarean section in placenta previa, but I am glad to say it is a very small place indeed. If there be a rigid cervix one may want to consider a cesarean section, but a rigid cervix in the practice of obstetricians is very rare in previa, even though our surgeons and general practitioners would have us believe differently. If the attendant on a placenta previa case will treat the case intelligently and properly with a slow extraction, or perhaps spontaneous expulsion, a rigid os will be rarely found by them, as it is seldom encountered by obstetricians. Braun, Schroeder and Strassmann do not consider such a complication in this connection. There can be no question that in contracted pelves one should do a cesarean section when placenta previa exists—but it is the pelvic distortion which indicates the operation, not the placenta previa. The indications for the cesarean section in placenta previa offer very pertinent hints as to the stand of obstetricians; of twenty-five cases operated on and reported, the professional rank is obtainable of nineteen operators of twenty-two cases; the indications were:

Five general practitioners, one rigid os.
Three gynecologists, one rigid os.
Five surgeons (6 cases), one rigid os; one where the operator knew how to do the section, but did not know the technic of a version.
Six obstetricians (8 cases), all complicated; one rupture of the uterus; one rigid cervix tympani uteri, fibroids; one rigid os with infection; four contracted pelves; one in which the cesarean was done for contracted pelvis—incidently in delivering the placenta it was found to be a low lateral previa.

In other words, this operation is done by men not versed in obstetrics; to-day not one obstetrician of repute and of large obstetric experience has countenanced the operation, *per se*; if the operation, to repeat, is done on the indication of a contracted pelvis with the presence of hemorrhage, the hemorrhage did not call forth the indication. When men like Lawson Tait and Deaver, men who stand at the top of their respective specialties, recommend cesarean section for placenta previa, when they candidly admit they know nothing about obstetrics, they stultify themselves and belittle the ideals of medical practice. Tait[1] says: "I have all my life avoided in every possible way contact with obstetric practice, and for thirty years have had no personal association with it save in occasional consultations." No wonder his placenta previa mortality was 50 per cent., yet he, with statistics such as these, recommended treating by surgical means what should be treated obstetrically.

Surely there were enough obstetricians obtainable in Philadelphia who could have treated the above-mentioned surgeon's case obstetrically and relieved him of the necessity of doing a surgical operation when a version, whose technic he did not know, was indicated. The case cited by Dr. Dudley was an indication for the attending physicians to be up and doing; that only does it suggest. Imagine the outlook for a poor woman after such neglect treated by cesarean section. The time for the section is due before the procrastinating general practitioner wastes valuable time, not after. To analyze the mortality as was done for the indications of the section in previa gives these results:

Five general practitioners: maternal deaths, 40 per cent.; fetal, 60 per cent.
Three gynecologists: maternal deaths, 33 per cent.; fetal, 0 per cent.
Five surgeons (6 cases): maternal deaths, 16 per cent.; fetal, 50 per cent.
Six obstetricians (8 cases): maternal deaths, 12.5 per cent.; fetal, 87.5 per cent.

Two of the obstetricians' cases had non-viable children, the same being true of one of the surgeon's cases. The gross mortality was 5 deaths of 24—20.8 per cent.—fetal, 70.8 per cent.

1. Lancet, vol. 1, 1899, p. 364.

There are three dangers that confront women with placenta previa—antepartum and intrapartum hemorrhage, postpartum hemorrhage and sepsis, rupture of the uterus and emboli not being considered in this connection. These are of as great importance if the woman be treated by section as by operations through the vagina, and more, too; in addition there are two others, hemorrhage from the uterine incision and shock from peritoneal manipulations in the section cases. If cesarean section is forced on the operator he should not stop short of removing the uterus; a Porro, or its modifications, will safeguard the woman against puerperal complications in a great measure. Of the cases reported six recovered, 100 per cent.

Dr. F. B. Dorsey, Keokuk, Iowa—Unfortunately, we can not always elect as to the performance of a cesarean section. If it is our privilege to examine patients early in their pregnancy, and we then discover the placenta previa, we have an opportunity to elect what course we will pursue. My personal experience leads me to believe that it is jeopardizing the life of the patient to allow her pregnancy to proceed many days after the discovery of the presence of an abnormal implantation of the placenta. We know that often it is very difficult to effect dilatation of the os, and it is also extremely difficult at times to control the hemorrhage, particularly if we find inertia, and we are very apt to lose our patient. My practice and teaching has been that when we discover placenta previa in the early months of gestation, we are justified in producing an abortion or a premature labor. Of course, if the progress of the pregnancy is advanced to the period when the child is viable, we are justified in electing cesarean section inasmuch as the vast majority of children are lost in the delivery through the vagina. In most cases we must elect to do that which is indicated according to the condition of the patient at the time she presents herself. Often we are called to see a woman in labor who is losing blood, and on examination we find some form of faulty implantation of the placenta. What is there to be done? If we elect to perform a cesarean section the woman may die while we are preparing for the operation. That is not a time for preparation but for immediate action, and the only justifiable procedure to be carried out at that time is podalic version and immediate delivery.

Dr. Charles J. Hastings, Toronto, Canada—I think that the cases of placenta previa that justify cesarean section are very few indeed and are practically limited to primipara with alarming hemorrhage, or evidence that an alarming hemorrhage has occurred, and a rigid os that will barely admit one finger. If there is one thing more than another that these discussions impress on us, it is the lack of ballast in the medical profession. A glance over the past decade will quickly show us the tendency of the pendulum to rapidly swing from one extreme to another. Another point that we must consider is that what would be a rational treatment in hospital practice would not be such in private practice, and the operation should only be undertaken by an experienced operator, and these cases usually demand rapid action. Dr. Dudley cited a very pathetic case, but I did not take the moral from it that he did, that is, that cesarean section should have been done. The moral is that any physician who will leave the house of a patient who is in labor and who has had a hemorrhage where he has diagnosed placenta previa, is guilty of criminal neglect. Had those physicians kept their patient in bed, remained with her and as soon as possible brought down a foot, they would, in all probability, have saved the woman's life. For the benefit of the young practitioner especially I endorse as heartily as I can the statement made by Schroder—that the physician who has the least regard for the life of the infant will have the lowest maternal mortality.

Dr. Henry D. Fry, Washington, D. C.—I performed one cesarean section for placenta previa. The woman did not know that she had been operated on until a week afterward, when I removed some stitches. Her convalescence was normal, as much so as if her labor had been natural. In 1901 I read a paper on placenta previa at the gynecologic meeting in Chicago. At that time I was opposed to cesarean section in any case, because I reported at that time 14 cases of placenta previa without a single maternal death. Since that time I have had five others, making 19. In the discussion on that paper Dr. DeLee of Chicago reported 25 cases of placenta previa delivered in the natural way with only one death. In another paper which I read later on the same subject, I reported my cases, Dr. DeLee's and Dr. Harris', some seventy odd, with only one death, a mortality of less than 2 per cent. The position I took at that time was that if we could treat this complication with such a low death rate, we had no right to do a cesarean section. Afterward I looked into the matter more carefully, looked up the statistics, wrote another paper and said that I thought there was a limited field for cesarean section. I mentioned that the woman must be a primipara, that the vagina must be small, the cervix undilated and undilatable. With these conditions, and a placenta previa centralis, you have the indications for a cesarean section. Most of the statistics for placenta previa are worthless because they do not mention the variety of placenta previa, a matter of great importance. The death rate in the marginal variety is low, whereas in the central variety it is high; statistics say 20 per cent. What would be the death rate if we performed an elective operation? Not over 5 or 6 per cent., for one which causes 20 per cent. Dr. Holmes says that a rigid os is a very rare finding in placenta previa. Books on obstetrics tell you that it occurs in 15 per cent. of all cases. I have seen several. I remember one very distinctly. The os was so rigid that I had to begin dilatation with steel instruments, following with rubber dilators of graduated size, and finally my finger. I brought down the foot, and it took five hours of labor pains to dilate the cervix. Much will be said for and against cesarean section in placenta previa, but after a while it will find its proper place. It is really one of the simplest operations and every practitioner ought to be able to do it. Dr. Deaver's case was not one for cesarean section, but for podalic version.

Dr. P. E. Truesdale, Fall River, Mass.—At no time in the career of the obstetrician does his courage receive such a severe test as when he is brought face to face with a case of placenta previa, almost exsanguinated, with the fetus in the uterus. I had one such case in which I did a cesarean section. The baby died an hour after the operation, but the mother recovered. I reported this case before the Obstetrical Society of Boston in 1903, and was then criticised by some for having performed the operation. Among the statistics quoted favoring the vaginal method of delivery were those of Dr. Fry, and it affords me great pleasure to hear him say now, that there is a limited field for the operation of cesarean section for placenta previa. My case was a multipara eight months pregnant. The os was dilated about the size of a silver quarter. She had had frequent hemorrhages for two months, and after each examination there was a violent hemorrhage. She was an ideal patient for cesarean section; thin abdominal walls, good recuperative powers and good resistance. After transfusing saline solution I operated, and I believe that by saving her the loss of any more blood I saved her life. In all our operations the recovery of the patient depends largely on the amount of shock produced, and this shock is materially in proportion to the amount of blood lost.

Dr. I. S. Stone, Washington, D. C.—I believe that Drs. Moran and Fry are doing nearly all the cesarean sections done in Washington. I think what has been done by all the rest of us has never been and, perhaps, never will be reported. Less than a year ago Dr. Fry was not willing to admit that the statistics of placenta previa warranted cesarean section. Not more than two months after that, however, he began to work the question out in his own mind, and then formulated the views which he has announced to-day. I want to take issue with Dr. Harrison. Dr. Moran is not the only man who has been criticised by Dr. Harrison. Some years ago I reported cases before the Virginia Medical Society and was severely criticised by Dr. Harrison, but he found in a little while that the world was moving on, and that he had to change his position. I think no medical question would be discussed properly unless Dr. Harrison waved the flag of con-

servatism. I admire conservatism, but when a gynecologist is sent for in a case requiring cesarean section he is better prepared to do that operation and save the life of both mother and child than by the old-fashioned way of bringing down a leg. With regard to the question of election in surgery: The time was when in a case of appendicitis three-fourths of the profession advocated conservatism. Now we operate in every case. The time was when we waited for a woman with placenta previa to bleed herself almost into the grave before we attempted to do anything. Now we are coming the other way. I realize that there is a place for this operation, and whenever the indications point that way we should not hesitate to undertake it.

DR. JOHN F. MORAN—The three great dangers in placenta previa are hemorrhage, sepsis and rupture of the uterus. To my mind, these three dangers can be met better in complete previa with cesarean section than by any other method of delivery. Although I have not gone into the details of these methods, yet I believe that they have a place; how much remains to be seen. At the present time, however, we can but say that with a rigid os, a small vagina and an aged primipara, cesarean section is indicated, rather than the exposure of the patient to the dangers of sepsis, increased hemorrhage and traumatism, which follow an attempt to deliver by podalic version or any other method. Dr. Harrison certainly did not mean to say that he would use bags in a central placenta previa. If he does, he must perforate the placenta and thereby diminish, if not entirely destroy, the chance of the child. We have two persons to consider, for the unborn child has some rights. As to who should operate, if you want your eye examined you would not go to a gynecologist. You want a competent man. When this paper was written it was not to advocate that it should be done by the general practitioner. A competent obstetrician should be called in to take care of a case of placenta previa, particularly when cesarean section is indicated. There is a field for this operation; whether it will be broadened will depend on future experience. With it we can obviate sepsis, hemorrhage and rupture of the uterus, and we also increase the chances of the child without decreasing the chances of the mother.

PROSTATECTOMY IN GENERAL,

ESPECIALLY BY THE PERINEAL ROUTE.*

GEORGE GOODFELLOW, M.D.
SAN FRANCISCO.

Indubitably the sufferer from the effects of prostatic disease, especially hypertrophy, is just now in the "lime-light" of the surgical theater, while around him are grouped the performers, each avidly anxious to assure him that his ails may be bettered, his anguish assuaged by some particular method.

Not so many years ago the catheter was the implement in the surgical armamentarium most relied on to alleviate the almost unendurable pangs experienced day and night by those unfortunates afflicted with the results of prostatic hypertrophy; but in a large proportion of cases the catheter ultimately added to their torments, although temporarily of benefit. Taken usually from some unclean repository, once or oftener during the twenty-four hours, it was thrust into the ailing penis, the patient writhing in agony while the urine was withdrawn from its fleshy environment.

While the question as to the precise method of dealing with hypertrophied prostate is still an exigent one, the answer is rapidly formulating, so swiftly that we can feel confident even now to assure patients that no longer need they lie "from weary chime to chime," longing for, yet dreading the death that is to release them. That that class of invalids can now be assured of permanent relief is certainly a testimonial to the brilliant work of modern surgeons.

The first systematic operation for the removal of hypertrophied prostate was the suprapubic in the mid 80's, recommended by Belfield and McGill. That passed gradually into desuetude, while divers blind cutting and puncturing methods, to a great extent, took its place. Finally, removal through the perineum came to elicit discussion, provoke opposition, stimulate investigation, and I believe eventually to become the operation of election for all except unusual cases.

The necessity for thorough preliminary examination before operation—as thorough as in all contemplated operations on the individual—is patent, and nothing suggesting itself to the experience of the operator should be neglected.

Palpation, wherever used, as we all know, even to the most skilled, holds an element of uncertainty that should be eliminated by instrumental aids so far as possible without risk to the patient; yet even with finger and instruments in all pelvic troubles, the information gained is many times far from accurate; nevertheless, that should not prevent us from availing ourselves of every aid to diagnosis. But here I must utter a word of caution; instrumentation of the urethra and bladder has been productive of great harm, and the greater experience I gain leads me to say that unless great urgency exists, for explorative purposes, an instrument should not be entered into a virgin bladder. In this I refer especially to the cystoscope and kindred instruments. What tactile dexterity in this condition fails to elucidate an instrument can rarely, if ever, be expected to find.

The indications for prostatectomy lie in the urinary difficulties that by processes of exclusion can be placed nowhere else than in the neck of the bladder; there are no contraindications if the patient's condition is such that any operation would be within the jurisdiction of prudence. Age is no bar—a man of 80 may be potentially younger than a man of 60. Not always, as is the generally accepted idea, is there residual urine with an enlarged prostate; contrariwise, there may be residual urine where the prostate is little if at all enlarged, where the condition that I have elsewhere called "doughnut hypertrophy" or hyperplasia exists; where, when the finger enters the bladder, merely an extremely tight ring of thickened tissue strongly elastic constricts the finger, and from which a very small nodule, if any, can be removed. Operative interference is as urgently demanded in such cases as in those wherein the volume of the prostate has attained palpable and obstructive dimensions.

There is another class of cases usually inappreciable to touch, and not always distinguishable by instruments, wherein may or may not be retained urine, but which cause irritative symptoms, i. e., moderate median lobe hypertrophy, wherein operation is required.

So far as known, the prostate has no physiologic function commensurate with its importance as a pathologic factor. The secretion is presumed to impart motility to and vivify the spermatozoa. I have tried to verify that hypothesis in several patients from whom the gland has been removed, but without success; the length of time intervening between the emission and examination making the latter futile.

The moot question as to whether the prostate has a

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* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. DeForest Willard, Charles A. Powers and J. E. Moore.

middle lobe must be held undecided; normally, it has not; abnormally, it has, as one or two of the specimens will demonstrate. Enlargement springs from what is termed the posterior commissure that unites the two lateral lobes.

It has been contended recently that this third pathologic lobe usually springs from one of the lateral lobes, which may be possible; my investigations do not permit me to say.

The mechanism of retention is attributed to a change in the axis of the urethra, as well as to compression exercised by the gradually increasing size of the glandular elements; that is to say, neck and base of the bladder are changed in relation one to the other. This is undoubted, but I opine that the compression is ample to account for the obstruction, as when raised or lowered the head gates of an irrigating canal may increase or diminish the flow of water through the ditch. Having the maleficent obstruction, however, the remedy is what?

Until within the past two decades none adequate had been devised. Then, with increasing light, due to greater knowledge and inspired confidence in the results of modern surgical technic, was attempted the ablation of the gland in whole or in part, first, suprapubically, next, combined suprapubically and perineally, finally through the perineum alone. During this time, in addition, have been advocated and practiced puncture of the gland through perineum and rectum and division with electric knives.

With no intention to ignore the efficient work of others, but with a wish not to occupy an undue proportion of your time, I shall confine myself to a brief description of median perineal prostatectomy, the procedure to which, after abandoning other methods, my attention has been devoted. Many of those who have contributed to our knowledge of prostatic troubles are present, and I trust will express themselves in the discussion to follow.

The usual surgical pre-operative procedures are followed with the single exception that the bladder is not irrigated. The patient on the table, the staff is passed. A change is then made to an exaggerated lithotomy position, the legs held by assistants. A longitudinal median incision, beginning at the scrotoperineal fold, a little over an inch in length, is made and carried to the urethra. The tissues are then cleared away from the urethra until the membranous part is perceptible; this is perforated with the knife or finger, the bladder entered, the staff withdrawn, the enucleation begun and completed, this taking rarely over ten minutes, generally about six.

After-treatment is simple but most important. I have not been in the habit of using either irrigation or a drainage tube. The dressings are changed frequently, when very moist, which, for the first week, will be every two or three hours or oftener. All aseptic precautions are taken with the dressings that no external source of sepsis may affect the wound. About the ninth day a sound is passed. This may be somewhat difficult, as, owing to the vacant space, the normal curve of the urethra is changed, and an almost straight instrument is required. In many cases, perfect control of the bladder is retained, consequently the urine does not dribble. The wound closes in about twenty-four days, and thereafter the urine is passed with a frequency, varying with the conditions of the bladder. The patients are not only permitted but urged to get up at the earliest moment consistent with their feelings, and in a recent case one was permitted to take a tub bath and go to the toilet on the second day. This operation destroys more or less of the membranous urethra, probably about an inch. This in no way seems to affect the power of the bladder to retain its functions nor the urethra to regain its continuity. The seminal ducts also are undoubtedly more or less injured in some of the cases, if not all, but this does not affect their functions, as I know by experiments made, spermatozoa having been found in many cases after operation.

The difference between this method and those of others who have devised other perineal technic, is that they have tried to make operations wherein every step of the process is seen. The only operator, so far as known to me, who follows this technic is Syms, whose operation, save for the use of the retractor, is identical with the process followed by me, and had I occasion to use retractors, I know of none which would equal in efficacy that of Dr. Syms'.

The total number of operations made by this method is 78; the last one is too recent to be included in the data given, and the two preceding, while having passed the danger period, are still but convalescents, so that 75 cases have been tabulated. Seventy-five cases, average age about 67; the two youngest 45 and 48; two oldest 82 and 84; two deaths, one from sepsis and one from shock; fourteen had stone; largest prostate removed, 7½ ounces; four cases have been reported carcinomatous; three have confirmed the diagnosis, one dying after one year and one after twenty-three months of comfort in robust health, the other still in good health; one syphilitic.

Mortality		2	Sepsis 1, Shock 1
Sequelæ	Fistulæ	Temporary 2, Permanent 0	1–7 Months, 1–8 Months
	Incontinence	Temporary, many; Permanent, 0	
	Epididymitis	Many	
	Impotence	Temporary ?, Permanent ?	
	Stricture	Temporary 2, Permanent 0	

While no one operation is a sovereign remedy for the results of prostatic trouble, the perineal method is preferable for several reasons:

1. It provides direct access to the diseased parts for exploration and operation.
2. It affords more room for manipulation.
3. It is the best route for drainage.
4. If required, a suprapubic opening can be made, and in all epicystotomies drainage should be made, for in the pathologic conditions existing in associated organs drainage is an advantage and best made through the perineum.

I shall now detail three cases of syphilitic enlargement of the prostate:

Case 1.—Referred by Dr. Chismore. Male, 76. Past history uncertain. Denied venereal infection. Gland uniformly enlarged with usual symptoms of vesical obstruction. Operated. After reaching the interior of the bladder and beginning the enucleation in the usual manner, the prostate was found to be of a gelatinoid consistency and was removed by curettement with the fingers. A considerable quantity, probably four ounces, was secured, and more washed away. The appearance was that of sarcoma and that diagnosis made. On the fourth day a severe hemorrhage occurred. This was checked by packing with gauze. A few days later a second equally as bad supervened. Following this came others at intervals for three weeks. Believing the trouble to be malignant and the patient doomed, no unusual investigation or treatment was undertaken.

The joints of the lower extremities finally became painful and other signs observed that induced a course of K. I., 30 grains every two hours. In two weeks the wound closed, the patient was up, and in six weeks after the operation he left the hospital feeling and acting well.

CASE 2.—Referred by Dr. DeVecchi. Male, Italian, 66; married. Eight children; all healthy but neurotic. For many weeks preceding had been having hematuria constantly, with symptoms of obstruction at vesical neck; residual urine, catheter used every four hours or oftener. Both epididymes enlarged and fluctuating, skin over them discolored. No temperature. Although venereal infection was denied, some scars in each inguinal region and the condition of the testicles led to specific treatment, with the result of inducing rapid subsidence of all symptoms and apparent recovery. The testicular swellings were incised and a grumous fluid discharged from each. The first impression given was that of sarcoma of prostate and testicles.

CASE 3.—Male, 68. Usual symptoms of prostatic obstruction with hematuria. Prostate enlarged. Residual urine, 6 to 8 ounces. Denied venereal history, but cicatrices in groins, a tumor on scapula, with other minor evidences, caused him to be placed on specific treatment. The enlargement both of the scapula and of the prostate disappeared, control of the bladder was regained and when last heard from he was enjoying as good health as any man of his years.

Syphilis of the prostate is an unusual form of prostatic trouble, concerning which little has been written. Careful search through the literature on prostatic disease has failed to bring to light any mention of syphilitic affections of that organ, and I shall be pleased if any of my readers can direct me to publications wherein is mention of such complication. French, German and English periodicals and text-books covering the past ten years have been unavailingly investigated. Objection may be made that the diagnosis was not accurate or precise. The criticism is a good one, to which only one reply can be made; that the test of treatment is the only test of the nature of the malady. If pronounced symptoms of cerebral tumor are present and a course of specific medication is followed, by virtual recovery, it is assumed, however unjustly, that the cause of the trouble primarily was syphilis. Likewise with other obscure pathologic manifestations of that disease, the protean forms of which are as the sands of the sea; if in doubt, specific treatment is tried; if the result be favorable, the presumptive accuracy of our guess is assumed, as demonstrated.

One only of these cases being operated on, no specimens are available for examination. In that one the specimen was lost. The patient died some months later from some cerebral difficulty, presumably apoplexy. The other two remain in good health, with control of urinary functions. Perceptible enlargement of the prostate remains, but with no residual urine. They have continued the treatment intermittently to the present time.

The history of the foregoing cases compels the query: Are not a larger proportion of enlarged prostates than heretofore supposed sequelæ of syphilis? The term sequel is here used as suggested by Hutchinson, who looked on all tertiary manifestations of syphilis as sequels and not complications, a view with which I agree. Obviously immutable certainty of diagnosis is not assured, because enlargements disappear under iodids, but as said, such result makes strong testimony amounting almost to evidence.

Opium Smokers in the United States.—Opium smoking is not so purely an oriental vice as is generally supposed. It is estimated that there are at least 1,000,000 opium smokers in the United States.

PROSTATECTOMY.

IS IT WISE TO TRY TO MAKE ANY ONE OPERATIVE METHOD APPLY TO ALL CASES?*

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The excellent results which follow the radical removal of obstructing prostatic hypertrophy have caused the profession as a body to change its position of skepticism, or I might say almost open hostility toward the radical operation, to one of lukewarm favor. Before the time of McGill's operative work a surgeon called in one of these cases had nothing to suggest aside from the catheter. After that time, however, it becoming more or less generally known that operative surgery at the hands of a few pioneers had effected cures in these cases, a surgeon in consultation no longer felt safe in confining his discussion entirely to the catheter. He had to bring up the subject of radical operation, if only to condemn it, so far as that particular case was concerned. Next in order came the various surgical makeshifts devised to get around the troublesome subject of radical operation. Beside being easy of surgical accomplishment, it was hoped by their originators that thereby relief, with a less degree of mortality, would be attained. Most of these makeshifts have already passed, or are now fast passing into oblivion, and this has been due to two causes: (1) The unsatisfactory results attending them; and (2) the increasingly better results following prostatectomy at skilled hands. All this has made it evident to thoughtful surgeons interested in this particular, that the time has come to study and to master the operative problem and no longer to try to get around it or to discredit it. The operative problem includes the following points: The removal of the prostatic obstruction, the avoidance of mishaps and subsequent surgical complications, the complete restoration of the vesical function, and the preservation or improvement of the sexual function. At the present time most writers on the subject concern themselves with little aside from the operative removal of the obstruction; and in this connection also there is a strong tendency shown for each writer to advocate some special and exact operative procedure which he advises adopted in all cases, other methods of operation to accomplish the same purpose being either condemned or ignored.

All prostatectomies can be grouped under three headings: (1) Where the hypertrophy is removed through the employment of a suprapubic cystotomy: (2) where it is removed through the employment of a perineal cystotomy; and (3) where it is extracted along the path of a perineal dissection, the aim of which is to avoid opening the urinary tract or the rectum.

So far as the mere accomplishment of the removal is concerned, I think I am safe in saying that I can do it in any case through the employment of any one of the three general methods. If I should, however, undertake to use one method for all cases, I should feel that I was violating an important principle of surgery, in that I had neglected in each particular instance to consider the choice of operative method; and I also feel certain should I do so that my record of mortality would be much greater than it is. In making the above statement I do not wish it to be inferred that I should

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. DeForest Willard, Charles A. Powers and J. E. Moore.

not expect to invite surgical mishap in connection with my prostatectomies should I, for instance, try to remove obstruction in all instances by the third method. For, take a case as illustration wherein the prostatic hypertrophy is surrounded by old inflammatory adhesions which bind an attenuated bladder wall firmly to that structure. In such a case it would be impossible to radically remove the obstruction extravesically without at the same time opening the bladder at least by a rent, and in all probability by tearing away a piece. The third method of operation will, in my opinion, never become the one generally employed. In order to explain why I hold that opinion I will enumerate the class of cases in which I consider it contraindicated, together with my reasons for so thinking.

The operation requires for its accomplishment more time, on the average, than the other procedures. With many elderly and feeble individuals the time spent on the operating table is an important element. It should be for such as short as possible. The danger of meeting with the surgical mishap of tearing the urethra and bladder is great, as has already been mentioned, except, perhaps, in hypertrophies uncomplicated by an inflammatory element, which practically means hypertrophies which admit of easy enucleation. There is no way in which a surgeon can positively determine beforehand that in a given case a condition susceptible of easy enucleation will be encountered. In quite a number of the cases reported wherein this method has been employed the rectal wall has been torn during the operative procedure, an accident which threatens to establish rectovesical fistula. In order to combat these surgical objections, some advocates of this method have begun to advise that it be employed only as a partial operation, or in other words, that the attempt should be made through it to remove only a portion of the hypertrophy, the operator avoiding the part lying too near the urethra, bladder or rectum. The fatal objections to such an operation are that it would only partially relieve a patient of his vesical obstructive symptoms, and would, in all probability, only temporarily effect even that much relief. This operation does not provide vesical drainage, and so is contraindicated in all cases wherein complications of the urinary tract have resulted from prostatic obstruction, conditions which require for their cure vesical drainage and rest. Such complications are purulent cystitis, ureteritis, generally associated with dilatation of the canal, pyelitis, bacillary nephritis and the lesions of the bladder wall induced by long-continued overdistension or resistance to obstruction, such as atony, diverticula and ulcerations. It will be seen that the above enumeration excludes practically all of the complicated and severe instances of prostatic obstruction.

The second method, which relates to prostatectomy through the medium of a perineal cystotomy, has, at the present time, the greatest number of advocates. It is a very feasible operation, and one that I am constantly employing. I must say, however, that I do not use it to-day on as large a percentage of cases as last year or the year before. In connection with the operation itself, I feel that much that has been written lately regarding it serves only to make the procedure seem complicated and to mislead the reader. In the first place, if the thighs of the patient are sufficiently flexed, there is no need of a complicated perineal dissection extending laterally to either side of the median raphe, such as so many writers have described, all that is necessary being a small median incision which enters the perineum just above the rectal sphincter and which extends above the rectal wall to the prostatic urethra. The tissues in this region are very elastic, consequently this narrow incision can be dilated sufficiently for purposes of extraction. It dilates, in fact, much as does the vagina at childbirth. In the clinic I have frequently called attention not only to this fact, but also to the similarity in instrumental manipulation between the forceps extraction of the baby and of the prostatic hypertrophy. In this form of operation, if the prostatic mass is found to be too large to admit of easy extraction, it should be broken into two or more pieces.

It is urged against this method of operation that the incision I have described does not allow the operator to see the prostatic obstruction and to detach it under the guidance of his eye. It surely does not; neither do I use my eyes in the accomplishment of detachment or of enucleation. I use that which is much surer and much better in this particular, my sense of touch. With my trained finger I can map out the hypertrophy and separate it from its attachments to the bladder and seminal vesicles without in most instances inflicting injury on either of those organs. In some instances, where I have found great difficulty in separating the hypertrophy from the bladder, I have thought best to abandon the attempt by the perineal route, completing the operation by suprapubic cystotomy; but this subject I will mention later.

Perineal prostatectomy by this method, when thoroughly performed, as it should be, radically removes all obstruction, and leaves the patient able, easily and voluntarily, to completely empty his bladder. Convalescence from this operation—by that I mean the time in hospital—averages some days, though considerably less than a week shorter than after the suprapubic operation. If a prostatic has a good expulsive force to his bladder, I am inclined, in most instances, to advocate prostatectomy through perineal cystotomy. Bladders which have their expulsive force represent those whose walls are normal, and those whose walls are thickened and strong through muscular hypertrophy which has been developed to overcome a slowly progressive state of prostatic obstruction. The size of the hypertrophy does not, as a rule, influence me. If, however, the prostatic hypertrophy lies surrounded by a mass of dense tissue, the result of repeated attacks of inflammation, I might then, especially if I were in any doubt as to the strength of the bladder walls, decide against the perineal operation.

In cases complicated with very foul cystitis, associated with attacks of vesical hemorrhage and phosphatic calculus formation, I should decide against the perineal operation, as I should then consider a suprapubic vesical opening necessary, as well as the perineal one, in order to secure for the bladder the requisite degree of rest and drainage. The same reasoning would likewise decide me in cases where the renal pelves and structure had become secondarily involved to any marked degree. The reason why I should decide against the perineal operation in cases where the bladder wall is lacking in expulsive force, lies in the danger which such a patient so operated on runs should much blood clot accumulate in the bladder after the operation; for if, under such conditions, blood clot accumulates, the bladder has no force to expel it, the perineal tube becomes blocked, the continuance of bleeding is then encouraged by the incessant though ineffectual tenesmus which the lack of drainage encourages, urine accumulates behind the blood clot, and overdistension of the

bladder results. In such a contingency artificial suction through the perineal tube or removal of the tube and of some of the clot by means of forceps may result in effectual relief; still, in my experience, the safest method of remedying such a complication is by immediately opening the bladder suprapubically, emptying it of clot and establishing counter-drainage in that part.

Not long since I lost a case from this accident which, owing to its interest, I will briefly detail. The case was an old prostatic, whose bladder was atonic and diverticulated. The cystoscope showed the ureteral orifices dilated sufficiently to admit the tip of the little finger. This state of affairs, to my mind, contraindicated perineal prostatectomy. The patient refused to take an anesthetic, but was willing to have an operation under spinal cocainization. He had chronic bronchitis, and that, of course, favored the cocain. I did the perineal operation without difficulty. Six hours after operation his bladder filled with clot, causing much tenesmus. The hospital staff succeeded after a time in freeing the bladder by removing the tube and extracting clot so that perineal drainage was re-established. The patient gradually developed uremic symptoms, together with tenderness over the right kidney. At the end of two weeks, the patient gradually getting worse and the tenderness over the right kidney increasing, I performed nephrotomy, and on opening the renal pelvis found it packed with old decomposing and partially deliquescing blood clot. Aside from some dilatation, the mucous lining of the pelvis did not show lesions, and as the patient had never in his previous history had renal hemorrhage, I was forced to the conclusion that the blood clot I found there was made up of a bloody reflux from the bladder along the dilated ureter, which had occurred at the time of the vesical hemorrhage just subsequent to his operation. Had a suprapubic vesical vent been left in the case at the time of operation, I have no doubt recovery would have followed.

In the performance of my suprapubic prostatectomies, it is my practice to leave a perineal as well as a suprapubic vesical vent, in order to establish perfectly free drainage. On numerous occasions wherein I have been in some doubt as to choice of operation, I have first made my usual perineal opening, through which I have inserted my finger, in order, by means of the sense of touch, to more exactly study existing conditions. If, after such study, I have decided against extraction of the prostate through the perineal incision, I have then done my customary suprapubic operation, using the perineal incision for drainage purposes only. Should I find, owing, perhaps, to dense adhesions, that I could not complete the enucleation of a prostatic hypertrophy through the perineum without resorting to a degree of traction or force greater than might be safe for the patient, it is also a simple matter to abandon that operation, leaving its incision for vesical drainage only, and complete the extraction by the suprapubic route.

Suprapubic prostatectomy I consider the operation of choice in practically all cases which do not fulfill the requirements I have enumerated for the perineal operation. In the majority of instances in which I choose that operation, I really employ it chiefly for its suprapubic vesical vent, a feature of so much importance where the freest urine drainage and the greatest vesical rest is necessary. In other words, it is the method of choice in advanced cases of prostatic disease, complicated by the resulting lesions of the urinary tract. There is also little danger of injuring the sexual apparatus in the performance of this operation. Yet the majority of surgeons at present are inclined to condemn it as operatively dangerous, for the good reason, apparently, that much mortality can be attached to it. Still, if certain rules are observed in the performance of this operation, if the incision is properly sutured and drained, and if the surgical supervision of the after-treatment is efficient, the suprapubic operation should in itself give no extra mortality.

I first published my operation relating to suprapubic enucleation of prostatic hypertrophy in June, 1895,[1] so it is not here necessary to reiterate it in detail. It is the same operation in everything essential that Freyer two years or so ago published as his own. The gentleman's attention was, however, called to that fact at the time by signed communications, which several English surgeons as well as myself published.

My experience to date with prostatectomy is somewhat over 300 cases. I feel that if cases complicated with very marked uremia are excluded, I can operate with an average risk to the patient of not more and probably under 5 per cent. Death from the operation itself is practically *nil*.

CONCLUSIONS.

I wish, in conclusion, to enter a protest against classing as true prostatectomy, or at least prostatectomy as the profession understands it, which relates to senile hypertrophy only, cases of middle-aged or even younger men seemingly from their histories, to represent simply inflammatory effusions in connection with the prostate or its periphery. Some time since a report came to my notice which seemed to merit this objection. In it the remark was made that the finding of any hypertrophy which could be enucleated was very unusual. Hypertrophies which can be enucleated do not exist in connection with simple inflammations.

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DISCUSSION

ON PAPERS BY DRS. SYMS,* GOODFELLOW AND FULLER.

DR. ORVILLE HORWITZ, Philadelphia—An unusual opportunity to study a large number of cases of senile hypertrophy of the prostate gland during the past two years has convinced me of two facts. First: The danger to the patient commences as soon as it becomes necessary to resort to the daily use of the catheter. A radical operation performed as soon as the symptoms of obstruction begin to appear, with the low mortality which attends such cases, offers the individual a better chance for health, comfort and prolongation of life than the unfortunate patient who leads a catheter life. Second: A routine method is not applicable to the treatment of prostatic hypertrophy. Every case is a law unto itself, and the treatment will depend on the various conditions treated in each individual case. The earlier the operation is performed, the less is apt to be the mortality. It will be found that the mortality of 6 per cent. is usually obtained in those patients who are operated on at the outset of the prostatic obstruction; between 15 and 16 per cent. The Bottini operation is of real surgical merit. Accumulated evidence shows that in suitable cases it is capable of giving better results than cutting operations with much less danger to life, and therefore should always be resorted to in cases suitable for its employment. My experience with this method of treatment is based on 99 cases with 3 deaths, 86 per cent. of cures, 10 per cent. unimproved. In 1892 I tabulated 886 Bottini operations

1. Jour. of Cut. and Genito-Urinary Dis., N. Y., and later in my book, Diseases of the Genito-Urinary System, The Macmillan Co.

* The paper by Dr. Parker Syms appeared in THE JOURNAL November 5.

by 48 operators. Of this number of operations, 84.3 per cent. were cured or improved, the mortality being 5.7 per cent. The genitourinary surgeon who desires to maintain his position in the front rank of the profession can no longer afford to treat this operation in a contemptuous manner and refuse to acquire the skill which is necessary in order to perform it. This operation is indicated principally in those cases in which there is a contracture of the neck of the bladder, associated with a thickening of the prostatic isthmus joining the lateral lobes. Prostatectomy is as much the subject of controversy as is the Bottini operation. My experience with this method of operating is 9 complete suprapubic prostatectomies with 2 deaths; 7 partial suprapubic prostatectomies, with 1 death; 39 perineal prostatectomies with 6 deaths. In the latter series of cases, two were unimproved, two had dribbling of urine, and in one a recto-urethral fistula formed.

Those who advocate some one of the various methods of operating by means of an extensive dissection of the perineum claim that so performed the operator can see to perform the various steps of the operation, and the bleeding vessels can be seen and ligated. Unfortunately, the advantages just enumerated are more theoretical than practical. Special instruments are required; the extensive dissection necessary in order that the various steps of the operation may be seen, occupies a much longer time than where the median perineal incision is employed; more blood is lost, the shock is greater and the anesthetic prolonged; the danger of wounding the rectum enhanced. When we take into consideration the fact that the individuals requiring prostatectomy are usually advanced in years, it becomes evident at once that the lowest mortality will be found on the side of the surgeon who adopts the median incision in preference to the extensive dissection. That the danger of the formation of a recto-urethral fistula in those cases in which an extensive dissection of the perineal tissues is made is a real one, at once becomes apparent on consulting the recent literature of the subject, where it will be found that this unfortunate accident has occurred in quite a large number of cases. Ninety-five per cent. of cases of hypertrophy of the prostate gland can be reached by median perineal incision. I have never found it necessary to employ either the inverted Y or the transverse perineal incision. The gland can be excochleated, as a rule, by means of the index finger, in from seven to fifteen minutes with little or no loss of blood and with slight shock. The only instruments required for the operation are a scalpel, grooved urethral staff, half a dozen hemostatic forceps, a small pair of laparotomy forceps, a pair of scissors and a uterine dilator. It has been found that after the membranous urethra has been opened, if a uterine dilator is inserted into the prostatic portion of the canal and the parts thoroughly dilated, this relaxes the anterior leaflet of the triangular ligament, thus permitting the gland to be brought well down into the wound so that it is easily accessible and can be readily enucleated. A perineal prostatectomy is best suited for those cases where the enlargement of the lateral lobes has a tendency to progress towards the rectum or obstruct the urethra. When the growth projects well back into the bladder, a suprapubic prostatectomy is the operation of choice. It is claimed that it is impossible to remove a small fibrous prostate without dissecting away almost the entire prostatic urethra, and I have found this necessary on five occasions; in every instance recovery was uninterrupted and a new urethra was formed without difficulty. It has recently been claimed by some surgeons, that when performing perineal prostatectomy, if the technic suggested by them be adopted, the gland can be enucleated without injury to the ejaculatory ducts. This is cited as one of the great advantages of selecting the perineal route. Curiously enough, Fryer makes the same claim for his suprapubic method of excochleation. It is stated that injury to the ejaculatory ducts gives rise not only to sterility, but impotence. This last condition is the most important one to avoid.

Dr. Robert H. M. Dawbarn, New York City—Where we can spare the patient an additional week we should do so. If we can determine that there is a stone and remove it, then I approve of Dr. Syms' instrument. I used it once and it burst in the bladder. I have not tried it with the canvas lining which he now uses. Where one does not think there is a stone or sacculation I advise the method I have used in 3 cases with recovery. It is simply a distention of the bladder used as Dr. Kean advises in suprapubic cystotomy. The bladder may be dilated by passing a catheter into the urethra. The urethra may be constricted and the bladder distended until the latter can be felt in the abdomen, the patient being in a sitting position. This position suffices to make the bladder firm, and without difficulty the prostate gland may be dissected out, the patient subsequently urinating without any need of an instrument in the perineum.

Dr. John C. Munro, Boston—Dr. Bottomley and I have done only 36 of these operations and have used mainly the method of operating in two stages, because most of the cases that have come to us seem too ill for us to complete the operation at one step. We open the bladder over the pubes and drain for a few days, until the urine clears up, then enucleate through a median incision in the perineum. Of the 36 cases, 3 were carcinoma, one patient died, but not of the operation. Of the benign cases one man died of suppression during convalescence. I believe in some of the cases of foul bladders that come to us it is the part of caution to do the operation in two stages rather than to undertake the entire operation at one sitting. Dr. Young's operation has proven an immense step in advance and I shall adopt it in suitable cases at once.

Dr. Martin B. Tinker, Ithaca, N. Y.—To save these very feeble, old patients the danger of general anesthesia, I have adopted local anesthesia, using infiltration of the nerves supplying the parts in conjunction with the massive infiltration method of Matas. I employ eucain B. 1 to 500, and adrenalin, 1 to 120,000. From a large number of dissections I found that the entire perineum is supplied mainly by two nerves, the pudic and the long pudendal. In these very thin old men it is not usually difficult to strike the nerves approximately with a long hypodermic needle. The adrenalin reduces bleeding to almost nothing, prevents absorption and thus lessens the danger of poisoning from eucain. In a perineal prostatectomy recently performed by this method the patient's only complaint was of the cramped position on the operating table. The very small amount of blood lost and the use of local instead of general anesthesia often makes the difference between life and death for these very feeble old men.

Dr. D. N. Eisendrath, Chicago—I believe that it is of the utmost importance to know whether a cystitis is present at the time of operation, and I am greatly interested to know what proportion of the cases reported had an advanced cystitis at the time of operation, and also what percentage was followed by a permanent perineal fistula. One of my own deaths following prostatectomy was due to a septic condition of the perineal wound and a phlegmon in the prevesical space resulting in a severe intoxication and death from urosepsis. In this case the patient had a severe cystitis, with marked ammoniacal odor of the urine. Unfortunately, the case was not seen by me until two days before the time set for the operation, which latter it was impossible to postpone on account of other reasons. I believe that in such cases, especially in men above the age of 60, it would be far better to drain the bladder for some weeks prior to an operation through a suprapubic opening.

Dr. Hugh H. Young, Baltimore—Drs. Syms and Goodfellow pretended to have a holy fear of "the big dissecting operation" which they say I do. One glance at the description and the plates of my article in The Journal, Oct. 26, 1903, will show that no important structures are injured and that the entire exposure of the prostate is by incising the skin and dividing the central tendon and the insignificant recto-urethralis muscle beneath it in the median line—(both of which are necessarily severed in all perineal exposures of the prostate) the remainder of the procedure is done by blunt dissection with the forefingers. The levator ani muscles and other important structures are merely separated and held apart by retractors so that no more injury (and perhaps less) is done than in those blind opera-

tions done by touch alone. Why these gentlemen should prefer darkness to light and object to a technic carried out under full visual control is incomprehensible. There was a time when the subcutaneous ligature of varicocele and of hernia and of fractured patella were considered ideal procedures, and other forms of blind surgery were much in vogue, but who to-day would countenance such procedures? The same rule would seem to hold good with the prostate and, in my opinion, the near future will see the surgery of the prostate on the same rational basis of careful technic under visual inspection as that of other parts of the body. Who to-day would merely amputate the breast for carcinoma for fear of the time consumed in a modern, careful dissecting operation? The much vaunted difference of time consumed in our methods of prostatectomy does not count for much in view of the absence of mortality in my 50 cases and its presence in theirs. In fact, one can easily employ careful, intelligent technic, seeing what he is doing and still not consume more than 10 or 12 minutes in exposing and removing the prostatic lobes; and when the operation is finished he has the satisfaction of feeling that he has done no unnecessary mutilation. The presence of mortality (two deaths each in the list of Syms and Goodfellow) shows that there is no excuse for the desire to tear out the prostate as rapidly as possible, blindly and without regard to such innocent but important structures as the prostatic urethra and the ejaculatory ducts, both of which are in no way concerned in the obstruction to urination.

DR. PARKER SYMS—There were 78 cases reported by Goodfellow, 58 by Young and 33 by myself, being a total of 169 cases, with only 4 deaths. This certainly speaks well for perineal prostatectomy, showing as it does a mortality of only 2.33 per cent. Especially is this true when we consider that perineal prostatectomy is not a half way procedure, for it removes the whole trouble. The practical question as to operating in two stages is very important. Among my own cases I have resorted to this procedure in several instances. It has not always been on account of local conditions present, but usually on account of the patient's lack of strength and vitality. In some instances it has been resorted to when patients have been brought to the hospital with complete retention and with complete obstruction to the introduction of the catheter or with false passages, which had been made by attempts at catherization before the patient came to the hospital. Under such circumstances I do not allow the patients to even await my arrival, but I have my assistant do an external perineal urethrotomy at once, and a few days later I remove the prostate through the original wound.

DR. GEORGE GOODFELLOW—The external incision, or the extent thereof, whether it be an inverted Y, cruciform, or sigmoid, is of little importance, it is the subsequent dissection that counts. Dr. Young thinks we have not studied the question of impotence sufficiently, and this may be true. However, there is no patient on whom I have operated that I have not carefully questioned concerning his sexual powers, and all say they have power, but it is probable that pride of occupation leads them to make statements inconsistent with actual phenomena. I have had two temporary, but no permanent, perineal fistulæ, but no rectal fistulæ. Spinal anesthesia has been used exclusively of late.

DR. EUGENE FULLER—I think there is a great deal in what Dr. Young has said about the sexual function. I do not think sufficient general attention has been paid to this matter. I have always operated to avoid injury to these parts, and if one is careful it is rarely necessary to injure the sexual apparatus. How many patients are able to procreate after prostatectomy I do not know. Most men are through raising families by that time. As to the cystoscope, I do not condemn it nor put much stress on it, but it may at times be a good preliminary to the operation. I was somewhat surprised at Dr. Syms' philippic against the suprapubic operation. It hardly seems to me that a person can condemn the operation as he does if he knows anything at all about it. If one has not mastered the operation, results are naturally bad. One must be able to do suprapubic work at the present time if he is doing serious genitourinary surgery. As to the troublesome cystitis following prostatectomy, there should not be any, provided there is good drainage. No phosphatic decomposition must be allowed to occur.

ERYTHEMA NODOSUM.*

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Erythema nodosum is a disease of childhood which is of interest to the dermatologist as well as to the practitioner who treats sick children. The disease was first termed erythema nodosum by the French physician, Robert Willan. In his text-book on "Diseases of the Skin and Their Treatment," which appeared in the year 1799, the foregoing name is applied to this disease. The older authors, however, paid little heed to the constitutional symptoms which were present; they were more particularly concerned about the lesion of the skin. They believed that this was a variety of the erythema group. Trousseau pointed out that erythema nodosum differed from the general erythema group in its form, location and in its clinical course. Modern dermatologists differ among themselves as to the relation of erythema multiforme and erythema nodosum; for example, Lesser believes that the two are to be distinctly separated. In the same manner Jarisch, writing in the Nothnagel system, separates the two diseases. On the other hand, Joseph of Berlin does not believe that the two varieties can be separated; he believes that both symptom groups may occur combined in a single individual.

THE ETIOLOGY OF THE DISEASE.

The disease should be classified as one of the exanthematous fevers, on account of the typical course, the prodromata and complications; among the latter may be mentioned conjunctivitis, pharyngitis, joint lesions and, more rarely, endocarditis or pericarditis. Lewin, who conceded the foregoing facts, was nevertheless inclined to believe that the disease occurred on an angioneurotic basis. When the severe constitutional symptoms, the persistently high temperature and the complications just mentioned are considered, one is inclined to the first-mentioned view. Finger, who made a special investigation of this disease, came to the conclusion that it was the expression of a septic process; he found from histologic studies that, aside from localized edema, round-cell infiltration occurred in the cutis, and streptococci were present in the inflammatory tissue. The disease is particularly liable to attack anemic, debilitated or scrofulous children, though perfectly normal and healthy children are not immune. The disease may occur after one of the infectious diseases, or after rheumatism or malaria, or it may occur in the midst of perfect health.

THE CLINICAL COURSE.

The patients are for the most part children from the second to the fourteenth year. The disease usually begins with vague pains, gastrointestinal disturbances and fever. The temperature is usually continuous; the disease rarely runs its course without some fever. The fever in some cases is remittent, usually falls by lysis, and lasts, as a rule, from two to seven days; in the relapsing cases it may last two to three weeks. After several days of vague pains about the joints, especially of the lower

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. S. W. Kelley, H. M. McClanahan and John C. Cook.

extremity, and some pain and tenderness over the tibia, the eruption makes its appearance; it occurs in the form of node-like swellings. It is most frequently located on the shinbones, though in some cases it occurs on the dorsal surfaces of the feet, on the forearms and on the thighs; it rarely occurs on the tongue and on the face. The lesions are usually distributed symmetrically, and come out in crops of two or three at a time, or a large number may appear at once.

The swellings are usually round or somewhat oval—a long axis, corresponding to the axis of the limb. They vary in size from a walnut to a hen's egg. These nodules are not distinctly circumscribed; that is, they have no well-defined border. Two or more nodules never coalesce to form a larger one; they tend to merge gradually into the surrounding skin; the swellings are tense and firm, at first painful and tender to touch; they do not cause itching, nor do they tend to suppurate. They are of a bright red color; the skin over the surrounding area is swollen and tense; the red nodule itself is glossy, as though it had been polished. In the majority of cases the nodes disappear in from eight to fourteen days, though the duration of the disease varies according to the intensity of the eruption. Sometimes the disease is terminated by a single crop of nodes in a very few days; in other cases, the repeated occurrence of the eruption in succeeding crops, prolongs the disease, so that it may last three, four or even eight weeks.

It has been maintained that erythema nodosum is in a sense infectious. Moussons[1] observed that a child who was admitted with erythema nodosum seemed to infect another child in an adjoining bed in a hospital ward. Heim[2] reported that a child who fell sick with erythema nodosum seemed to communicate the disease to a little sister, in whom the usual symptoms developed.

THE ASSOCIATION OF ERYTHEMA NODOSUM WITH OTHER DISEASES.

In the seventeenth and eighteenth centuries many of the writers considered rheumatism the cause of erythema nodosum. Among others, Sydenham, Boerhave, Anderaen and Souvages spoke of an exanthematous arthritis. One of the writers, Piffard, believed that the retrograde products of metabolism, such as uric acid, oxalic acid, kreatin and kreatinin, were excreted through the skin and caused disturbance in this localization. Clinical observations do not confirm the rheumatic views of the older writers concerning this disease. It is true that these patients complained of arthritic pains, but that does not necessarily signify that they are rheumatic in character. Joint pains are common in other infectious diseases, as, for example, scarlet fever, measles, typhoid, also in scurvy.

Stephen Mackenzie,[3] quoted by Cheadle, records 108 cases of erythema nodosum. In two of the cases endocarditis occurred with the eruption, without joint affection. Cheadle, however, continues to believe that erythema nodosum is of rheumatic origin in many cases. To prove this, he points out the tendency of the erythema nodosum to occur in young girls who are most liable to rheumatic arthritis, as well as to endocarditis and chorea; he believes that this is in agreement with a view of its rheumatic nature. Later on he says: "The fact that erythema occurs in cholera and septicemia, as the result of some form of toxic absorption, would lead me to believe that erythema depended on the existence of some irritant matter which is in circulation, acting either directly or by reflection on the skin."

The pains which occur during the prodromal stage, and during the height of the disease, are readily explained by the infiltration and inflammation in the skin.

HEART LESIONS.

A more frequent complication than rheumatism is endocarditis in association with erythema nodosum. The endocardium, pericardium and myocardium may be involved; that is, heart lesions need not necessarily be looked on as rheumatic inflammations; they may be considered infectious in nature, depending on the same cause which produces the erythema nodosum.

THE RELATION OF ERYTHEMA NODOSUM TO TUBERCULOSIS.

In one of my own cases, the history of which is given in this paper, a seven-year-old boy developed tubercular meningitis after an attack of erythema nodosum. In 1872 Uffelmann observed several children who, after having suffered from erythema nodosum, were attacked with general tuberculosis and died. It is true that clinicians of wide experience with this disease claim never to have seen a tubercular complication or sequela, notably among whom may be mentioned Baginsky, Bohn and Pfeiffer. Philip Kuhn,[4] who had opportunity to study 22 cases of erythema nodosum, found that eight children—that is, 36 per cent.—came from families in whom a tubercular history could be obtained, though he remarks that these figures would not permit him to conclude that tuberculosis was causally connected with erythema nodosum, because tuberculosis is very prevalent in Berlin, and it occurs many times without erythema nodosum. One of Kuhn's patients died of tubercular meningitis six weeks after the erythema. Another little fellow developed tubercular pleurisy three months after an attack of this skin affection. Kuhn concluded, however, that, because tuberculosis followed erythema nodosum in two cases out of 22, it is not proof sufficient to justify the belief that erythema nodosum is concerned in the production of tuberculosis. He goes on to say that it has been conceded by clinicians that erythema nodosum is an infectious disease.

Other infectious diseases, like measles and whooping-cough, frequently prepare a soil for tubercular infections, particularly the miliary type. Perhaps the erythema nodosum acts in the same way. The indisputable fact remains that in some cases, after longer or shorter period, erythema nodosum has been followed by symptoms of tubercular infection.

Erythema nodosum has been noted during an attack of scarlet fever, in a child 3 years of age. It has also been noted as a complication of measles, the erythema occurring four weeks after the measles disappeared. Moncorvo has seen the disease follow malaria. It is to be particularly noted that in quite a number of the reported cases sore throat has preceded by several days the development of the disease. In one of my own cases this course was observed.

COMPLICATIONS.

The question of heart disease and tuberculosis has already been discussed. Curschmann observed hemorrhagic nephritis; Lewin reported neuralgias; Quincke has reported cases of bilateral paralysis of the perineal nerves in a case of erythema nodosum. Multiple neuritis, involving the cranial nerves and those of the ex-

1. Arch. de Med. des Enfants.
2. Med.-Chir. Presse, 1902.
3. Lectures on the Practice of Medicine.
4. Archiv für Kinderheilkunde, 1903.

tremities, has been reported by Baumner. Psychoses in the form of mania and melancholia have been described by Jolly. Most children suffer from anemia after the disappearance of the disease.

HISTORIES OF CASES.

CASE 1.—James H., aged 7 years, was brought into my service at the County Hospital from St. Joseph's Orphans' Home; admitted on Nov. 27, 1903.

History.—Mother dead, cause unknown; father and one brother are alive. The patient is said to have had typhoid fever and pneumonia during the past summer.

Present Illness.—The little fellow took sick five days previous. The disease started with fever, headache, nausea and anorexia, pains in the legs, followed later by swelling and redness. On entering the hospital he reported that the swelling was increasing steadily, and that the pains in his legs persisted. He complains at present of swelling and tenderness and some pain in both legs, also a slight cough. His appetite is good, bowels are regular, he sleeps well, sight and hearing normal. The little fellow is small for 7 years of age; looks poorly nourished; seems bright mentally.

Examination.—Examination of the head, face and thorax was negative; the examination of the abdomen showed the spleen somewhat enlarged; liver negative; on the anterior surface of both legs were from seven to ten raised, red, tender areas; they were firm in consistency, painful on pressure, irregular in shape, not well circumscribed, some the size of a half dollar and considerably raised. Other nodes were scarcely raised at all; one, over the tibia of the left leg, was the largest of all, though it did not differ in general appearance from those already described. On the external surface of the right arm were two round, red nodes, the size of a nickel; they were not elevated, though the surrounding skin was infiltrated, and the nodes themselves tender to the touch. For three days after his admission, however, the temperature increased, he complained of not feeling well, and in a very short time new eruptions were observed over the extensor surface on the upper and also on the lower extremities. A few eruptions also occurred on the flexor surface of the legs. The anterior tibial surfaces of both legs showed considerable swelling and glossiness of the skin, and the nodes themselves continued tender. The urinary examination showed a trace of albumin and a few hyaline casts. Widal examination was negative; there were 11,000 leucocytes per cm. The patient was discharged on Dec. 18, 1903, somewhat anemic, though fully recovered from his disease. The Orphans' Home reports at this writing, May 24, 1904, that the little fellow has been perfectly well since his discharge from the hospital; he has had no return of the disorder and has improved in general health.

CASE 2.—Frank C., aged 5½ years, was brought into my office by his mother, after having been sick for three or four days.

History.—The mother gave the following history: The patient is the second child. Her little girl, three years older, is not robust in health, though she does not suffer from any chronic disease; the father and mother are both healthy; the little patient suffered from measles one year ago and had a sharp attack of lobar pneumonia when he was two years old. For three or four days before he came to see me he complained greatly of pains in the legs, difficuty of walking, fever, chilliness and headache.

Examination.—Examination showed that the little fellow was intensely pale, his pulse rapid, temperature 101, and he seemed exhausted; examination of the heart, lungs and abdomen was negative. On his legs, over the tibia, were noted several well-defined, red, infiltrated nodes, with the usual shining and swollen appearance of the skin. There was pain and tenderness on pressure.

Course of the Disease.—After three days in bed the spots began gradually to disappear, the infiltration became less, the red gradually faded, the color became fainter and fainter till it appeared like a slight pigmentation over the area of the previous nodular swelling. It was noted, however, that the temperature continued, in spite of the fact that the lesions over the tibia had disappeared. The morning temperature was from 99 to 101, while his evening temperature was frequently as high as 104. The little fellow was extremely irritable and was restless in bed. This febrile condition, with irregularity of the pulse and an occasional vomiting attack, continued for two weeks.

He refused food, lost in weight and in strength, the pallor increased, and at the end of the second week a convulsive seizure occurred. After this he passed into a comatose or stuporous state, which continued for ten days, until his death. No convulsions occurred after the initial attack. The eyes and ears were examined with negative result; the urinary analysis was without positive findings. Widal examination was negative; rigidity of the neck became marked, slight facial paralysis occurred, pulse and respiration were manifestly irregular, paresis of the extremities occurred, the abdomen became retracted, *Tache cérébrales* marked, Babinski sign present, bowels constipated, urine was passed involuntarily. As stated, he remained in this condition for ten days. For hours he would lie perfectly quiet; then, in turn, he would arouse for a very short time, become extremely restless and delirious, and sink back into this comatose state. Toward the end the respirations were extremely irregular, approaching the Cheyne-Stokes variety; the picture was typical of basilar or tubercular meningitis.

CASE 3.—Another little patient, Cecil W., aged 11, father and mother living and well.

History.—The patient lost a younger sister one year ago from a malignant scarlet fever; the patient himself has suffered several times within the past five years from attacks which have been diagnosed as meningitis. He is large for his age, but has a well-marked scoliosis; in other respects the physical examination was negative. About the last of December, 1903, I treated him for a well-marked membranous tonsillitis, which proved on bacteriologic examination to be a streptococcus infection (no antitoxin was administered). He was confined to the bed in the house for nearly a week.

Present Illness.—About ten days after his recovery from the tonsillitis I was again called to see him, because he was suffering from severe pains in the lower extremities. His temperature was 103, pulse rapid, he was drowsy, desired no food, and gave the impression of being severely ill. On the second or third day, the eruption began to appear on his leg; later, also on the extensor surfaces of his arms; the temperature continued high, pulse rapid. After a week the rash tended to disappear and made its usual involution; the patient felt well and asked for his discharge.

I have seen him frequently since the illness; he has suffered no complication as a result of his erythema nodosum.

DISCUSSION.

DR. DAVID LIEBERTHAL, Chicago, declared that pediatricians have as much opportunity to see this rare affection as do the dermatologists. Unfortunately there is much confusion in medical nomenclature, especially of diseases of the skin, and although older writers claim that erythema nodosum and erythema exudativum are identical, there are many features of distinction. Pharyngitis, pleuritis, pericarditis and endocarditis can not be considered as sequelæ of erythema nodosum, but must be looked on as concomitant symptoms. We have little certain knowledge of the etiology of the disease, as knowledge of its bacteriology has not led to any positive conclusions. The pathologic conditions present are serous infiltration of all the layers of the skin, engorgement of the lymphatic vessels and spaces, vascular stasis, moderate cellular infiltration and extravascular foci of red corpuscles—findings similar to those observed in simple urticaria.

Chloral.—From an experimental research published in *L'Echo Medical du Nord* Oct. 23, 1903, Dubois concludes that chloral possesses a cholagogue action which is due to its special action on the upper intestine and also to some extent by its absorption by the vessels.

PROPHYLAXIS OF TUBERCULOSIS IN CHILDREN.*

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In order that we can intelligently apply the proper treatment for the prevention of the disease, an inquiry into the method of its propagation must be made. The postmortem examinations of hundreds of cases of tuberculosis show that it is a rarity to find primary intestinal tuberculosis.

Heubner's results in a series of studies were as follows:

844 nurslings, age 1 day to 3 months, tuberculosis none.
218 nurslings, age 3 to 6 months, 3.6 per cent.
Age 6 to 9 months, 11.8 per cent.
Age 9 to 12 months, 26.6 per cent.
Age 2 to 3 years, 14.2 per cent.
Age 3 to 4 years, 13.4 per cent.
Age 4 to 5 years, 11.1 per cent.
Age 10 to 11 years, 5.0 per cent.

Heubner argues that, as not one single case appeared in a series of 800 nurslings during the first three months, the disease was acquired and not transmitted by inheritance.

Küss proved anatomically that primary tuberculous lesions are most frequently found in the bronchial glands. This corresponds with inhalation tuberculosis in animal experiments; hence it must be presumed that the inhalation of the *Bacillus tuberculosis* may cause this infection. Infants are constantly exposed to infection when in the same room with adults affected with tuberculosis. Heubner describes a case of a child with sound parentage that succumbed to tubercular meningitis after being exposed to a tuberculous adult.

It is impossible to trace by distinct means the source of infection in any case of tuberculosis. We know that tubercle bacilli abound in dust, in the form of dried sputum, and that these pathogenic bacteria can easily be disseminated by drafts of air. We know that mats and carpets are the hiding places of millions of these germs.

STATISTICS OF NECROPSIES.

Latent tuberculosis is frequently found in children at autopsy. Bollinger studied a series of 500 autopsies in children up to the fifteenth year. He found lesions of tuberculosis, either inactive or latent, in 218 cadavers. Küss, in studying tuberculous lesions in children, found that the maximum number of deaths appears between the second and fourth years.

Dr. Walter Carr reports statistics of necropsies on tuberculous children at the Victoria Hospital. He found 79 in which the disease most probably started in the chest, and 20 in which it seemed to have begun in the abdomen. Here the relation between the two forms of infection is as 1 to 4. In 26 children of early or limited tuberculosis, the thorax alone was affected in 12 cases, the abdomen in 7, being in the proportion of 1 to 1.7. Of 53 tuberculous children under 2 years of age, the disease most probably began in the chest in 43, and in only 5 certainly in the abdomen, the proportion in this case being as 1 to 8.4. Out of 27 children over 5 years of age, the disease began in the chest in 12, in the abdomen in 6, the relation being as 1 to 2.

These statistics, being all from English sources, are fairly comparable, and it appears to me they sustain Dr. Thorn's contention that the returns in England of tabes mesenterica represent with fair accuracy the abdominal tuberculosis of children.

Bollinger, in his address at the International Tuberculosis Congress of Berlin, in 1899, quoted with approval the record of autopsies by Heller (Kiel) of 248 tuberculous children, which showed in 45.5 per cent. of the cases tuberculosis of the mesenteric glands. From these, it was concluded that milk played a leading rôle in the so-called transmitted tuberculosis of children.

BOVINE TUBERCULOSIS.

It is plain from what has been said that in some countries where bovine tuberculosis is very frequent there is also a frequency of tuberculosis in children. Bollinger concludes that "although the tuberculosis of cattle and swine do not stand in the first line as source and starting point of human tuberculosis, nevertheless, considering their enormous distribution and progressive additions, and the great danger from the ingestion of the milk of tuberculous cows, they are certainly for humanity the most important and the most dangerous of all animal plagues, and deserve the most earnest attention from the sanitarian and the state."

The question as to the transmissibility of tuberculosis by means of drinking milk from cows whose udders are tuberculous is admitted by a great many authors. Koch, however, is authority for the statement that "bovine tuberculosis is an entirely different disease from human tuberculosis, and can not be transmitted from a cow to a human being." He, therefore, insists that raw milk may be taken *ad libitum* without any risk of infection. There must be a certain disposition or predisposition to the development of this disease.

OTHER PREDISPOSING FACTORS.

Other factors which are prominent in this connection are poor hygienic apartments, rooms in which sunshine is absent, and in which foul air stagnates, will certainly lower the normal resisting power of any and all individuals.

When a child has passed through an acute infectious disease which has already lowered its vitality, then an infection of tuberculosis more easily takes place.

Among the diseases which predispose to the development of tuberculosis are whooping cough and measles. The same is also true in exhaustive diseases which drain the vitality of children for a long time, as, for example, a prolonged attack of summer complaint.

The disease frequently accompanies the nursing period, hence even the youngest child may become infected. Baginsky reports eight cases of tuberculosis among 871 nurslings which died at his hospital. These were all under 10 months of age. On the other hand, he found, among 266 children in the second year, 13 died of miliary tuberculosis.

Out of 611 children between the second and fourth years, 182 died of miliary tuberculosis.

Out of 152 children examined between the fourth and sixth year, 6 had miliary tuberculosis.

ENGLISH STATISTICS.

Still[1] considers these facts and offers some interesting statistics, based not on clinical observation, but on postmortem findings, for the solution of this problem. In 769 autopsies of children, tubercle was found in 269, or 35.2 per cent. Tuberculosis was the actual cause of death in 252, or 32.8 per cent. From these statistics, therefore, it can be roughly estimated that about one-

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. S. W. Kelley, H. M. McClanahan and John C. Cook.

1. Clinical Journal, London, September 27.

third of the deaths in childhood are due to tuberculosis in one form or other. While children are thus shown to be specially subject to this disease, they are equally so at all ages, for Still shows that up to the age of 4 the percentage is as high as 71, and between 4 and 8 is still 22.5; after 8 it diminishes to 6.5. Moreover, the greater part of the tuberculosis under the age of 4, 43.4 of the 71 per cent. occurred in children under 2 years of age. This great frequency of tuberculosis in infancy has been used as an argument in favor of the idea of infection through milk, the primary lesion being in the digestive tract. It is true, Still says, that intestinal tuberculosis is exceedingly common in children; it existed in 52 per cent. of his cases examined, but also in that of the brain and meninges, 48 per cent., and that of the lungs is far more frequent, 78 per cent.

AUTOINFECTION BY THE SPUTUM.

Tuberculosis has so great a tendency to generalize itself in children that the question of the primary infection is not to be settled by the mere frequency of the lesions. The fact that children swallow their sputa is to be kept in mind. There is no question as to its infectiousness, while that of ingested milk in the human species has not been absolutely demonstrated. He finds that his statistics show that in 25 cases taken consecutively of children under 3 years, who did not expectorate, intestinal lesions were found in 19, while in a similar series, aged between 3 and 12, they were found in only 10. It would thus appear that autoinfection by the sputa in infants is a matter of serious importance.

DIFFERENCE OF OPINIONS OF VARIOUS AUTHORITIES.

It is interesting to note the difference of opinion held by various writers on this subject; for example, Osler believes that the point of entrance is the respiratory tract. The opposite view is expresed by Delépine. This observer states that tuberculosis gains entrance to the body through the intestine, hence milk is the source of danger. He cites postmortem evidences of mesenteric glands showing tuberculous lesions. Sims Woodhead published a series of statistics showing that tuberculosis was rare during the first year of life. He then points out that from year to year the number of cases increases. He believes that milk causes intestinal and mesenteric tuberculosis, the transmitting agent being milk. George F. Still of London does not believe that inhalation is the most frequent means of infection, hence the reason for the frequency of lung tuberculosis is apparent. Still argues that the reason for the prevalence of intestinal lesions is due to the swallowing of the sputum, so that primary tuberculosis of the lung can be followed by secondary tuberculosis of the intestine.

Friedman studied a series of palatine tonsils derived from 91 autopsy cases and 54 living subjects. The examinations were histologic and bacteriologic. His object sought was to study the entrance point in tuberculous cases. As the result of his work he found that tonsillar tuberculosis exists as, *a*, primary infection from food; *b*, secondary infection from sputum containing bacilli.

Leioin[2] describes a series of children having scrofulous glands and lupus. These cases invariably suffered from adenoids. It was impossible to discover tubercles in the adenoids.

A series of interesting animal experiments are recorded by this writer. Lewin used adenoids from 20 cases and introduced them into the peritoneal cavity of guinea-pigs. Nineteen were failures and one guinea-pig was infected. The child from whom the adenoid tissue was taken that infected the guinea-pig seemed to be in good health.

2. Archiv f. Laryngologie und Rhinologie, 1899, vol. ix. part iii.

STATISTICS OF AUTHOR'S CASES.

The statistics of my cases of tuberculosis from the children's service of the German Poliklinik in New York City are very interesting. Five thousand children were examined at random for the presence of tubercular lesions. More than 4,900 cases out of this number showed no sign of pulmonary disease; 1,700 of these cases have suffered with adenoids, pharyngeal disease, catarrh of the nasopharyngeal tract, or infectious conditions due to poor ventilation and general insanitary surroundings. The cases were taken in children from the first to the tenth year, inclusive; 59 cases out of this whole number showed distinct evidence of pulmonary tuberculosis. Only 9 cases of this whole number showed the presence of tubercular bacilli in the sputum. The difficulty in procuring sputum was an obstacle in making more frequent examinations. Forty-three cases of this number had bone and joint tuberculosis in addition to distinct evidences in the lungs. In two cases tubercular empyema was found. Five of these 59 cases had Pott's disease.

Feeding.—Two cases were breast-fed. Their mothers were very anemic and dyspeptic and suffered with general evidences of malnutrition. Thirty-seven of these cases were bottle-fed. The food consisted of grocer's milk. Eighteen cases were fed on condensed milk exclusively. Two were fed on modified cow's milk.

CASE 1.—Abie W., 8 years old, was brought to my children's clinic five years ago with the history of cough, fever and emaciation. There were general evidences of malnutrition.

Diagnosis and Treatment.—The diagnosis of capillary bronchitis was made and the child given restorative treatment. The cough continued. The sputum was examined at least once a week for a period of two months, and no tubercle bacilli were found. The child was sent to the country, and showed some improvement. He had a recurring winter cough for three successive years. When 7 years old a pleurisy developed, followed by an effusion. The effusion did not disappear, and an exploratory puncture revealed pus.

Operation and Results.—The case was operated on by a surgeon, but in spite of careful attention to asepsis a fistula remained for months. Tubercle bacilli were present in the discharge. Restorative treatment was given and the child removed to the country, and finally cured. The pyothorax remained about fifteen months.

The father of this child, I learned, was an inmate of the Montefiore Home for Incurables, suffering with pulmonary tuberculosis. Here a distinct family tuberculosis was found.

CASE 2.—Michael J., 5 years old, was referred to me by Dr. Mehrenlander with a history of cough, fever and emaciation.

Diagnosis and Treatment.—The diagnosis of empyema was made, and an exploratory puncture showed the presence of pus. With assistance of Dr. Mehrenlander, I performed a thoracotomy. As there were thick, croupous masses, two ribs were resected and a drainage tube inserted. In this case the wound discharged several months, and an examination of the pus showed the presence of tubercle bacilli. With the aid of fresh air and restorative treatment, such as cod liver oil, creosote, carbonate and special attention to the outdoor life, the child recovered.

Family History.—The child's father and mother are living. Their occupation as janitor in a tenement house gives them very insanitary surroundings. The bedrooms are dark and very insanitary. An older brother, 17 years of age, has acute apical tuberculosis. This older brother, when brought to me for a slight cough, showed no evidence of disease; in fact, he appeared well-nourished. His sputum contained tubercle bacilli.

We, therefore, have in the two cases just described empyema associated with family tuberculosis.

The co-existence of empyema and a family history of tuberculosis strengthened my opinion that, living under the same insanitary conditions and associating together, these cases were most probably transmitted or communicated.

ETIOLOGY.

Two agents must be held responsible for the transmission of the disease—human sputum and the milk of animals. It is a difficult matter to trace the causal relation between infected milk and infantile tuberculosis. Pathologists state that in from 90 to 95 per cent. the bronchial glands contain the oldest foci, and, therefore, they reason that the point of entry of the bacilli must have been by inhalation into the bronchi. Primary intestinal tuberculosis is rarely seen. Bovaird has reported this condition in this country. Dupont reported a large number of infected school children in whom a tuberculous teacher was believed to be the source of infection.

In a series of tuberculous children studied by me, the interesting point noted was that the large majority suffered with rickets. Tracing these rickets back to infancy, it was found that these children were one and all bottle-fed. As bottle-feeding means cow's milk feeding, *ergo,* there may be a possible association, i. e., cause and effect.

That environment is an important factor can be seen when we consider that all cases seen are in the densely crowded tenement districts. I have seen three distinct cases of tuberculosis in one family, all bottle-fed children.

It is rare to find tuberculosis in breast-fed children. There seems to be an immunity conveyed through the serum in breast milk. Another point, and one which has frequently been noted, is the co-existence of pharyngeal catarrh and tonsillar enlargement. This point is of more importance than one would consider off hand. In a discussion on tuberculosis before the Eastern Medical Society of New York City, I called attention to the fact that mechanical obstruction due to the presence of adenoids and enlarged tonsils interferes with respiration. This interference causes defective oxygenation of the lungs, and hence invites pulmonary disease. Pigeon-breast is one of the deformities frequently seen as a result of disease of the upper air passages.

PREVENTIVE MEASURES.

What preventive measures can be applied to check infantile tuberculosis?

1. Insist on each infant being breast-fed; in other words, start the baby right. Have a good foundation.

2. If the mother can not nurse her child, secure a wet-nurse. Let the wet-nurse nurse her own child in addition to her foster child, and give both infants alternate bottle-feeding. This mixed form of infant feeding is very successful.

3. In foundling asylums and day nurseries a wet-nurse can be procured who will nurse two infants. In this way we lessen the danger of tuberculosis.

The secret of health and the vitality and endurance of the enormous tenement house population is that they are or have been breast-fed.

Compare the bottle or cow's milk babies with the breast-fed babies, and you will find that the ratio of death is 9 in 10, whereas the breast-fed child dies in the ratio of 1 in 10.

CONCLUSIONS.

To sum up, we have two prophylactic measures for infantile tuberculosis. They are:

1. Breast milk.
2. Fresh air and sunshine.

Remember that the serum of breast milk contains an immunizing substance which accounts for the rarity of infectious diseases in the newborn.

65 East Ninetieth Street.

DISCUSSION.

DR. A. JACOBI, New York City, asked what we shall do with a tenement-house baby whose mother is tubercular. How shall such a child be fed, with breast milk, or artificially? If the mother is tubercular, he would forbid her to nurse the baby, not so much, perhaps, because he believes that her milk is dangerous, but because, by holding the child in her lap, etc., there is a distinct danger while the mother is coughing of its becoming infected through the sputum. If such a child can be taken away from its tubercular mother, and kept in a healthy environment, tuberculosis need not be feared, because there is almost no such thing as hereditary tuberculosis. On the other hand, a healthy infant is known to become tubercular when raised in the tubercular family. So far as tubercular milk or the milk of tubercular cows is concerned, Dr. Jacobi thinks that there is one safeguard that probably many have the advantage of, without knowing it. The milk of a single tubercular cow is undoubtedly dangerous; the milk of a tubercular cow that forms one of a herd of thirty or more is not dangerous. This has apparently been settled experimentally. Tubercular milk, when diluted to a sufficient extent, becomes innocuous.

Tuberculosis is transmitted by inhalation, but there is also intestinal tuberculosis. It is not necessary that tubercle bacilli in the intestinal tract should limit themselves to that locality; they will perforate not only diseased, but healthy mucous membrane. This is certainly so in the lung and it seems to be so in the intestines. Some writers insist that when the bacilli get into the mouth or nose, they are not inhaled directly into the lungs, but are absorbed in the posterior nares and tonsils. These observers claim that the first deposit of the tuberculosis is in the glands of the neck; from there it travels downward through the three tiers of lymphatic bodies into the mediastinum. If this explanation is the correct one, then it would appear that every conglomeration of lymphatic bodies is dangerous, for they may harbor tubercle bacilli.

DR. W. B. ULRICH, Chester, Pa., agrees that tuberculosis, *per se,* is not transmitted from parent to child, but he believes that the tendency, the weakness, the diathesis, is transmitted, and that on the least exciting cause or provocation tuberculosis may develop. Prophylactic treatment should be in the direction of reforming or controlling the marriages of the world. People rush into wedlock through their emotions rather than through their reason. As long as forty years ago the Kentucky farmers appreciated the wisdom of careful selection in the breeding of their horses. At least as much care should be taken in the breeding of children as in the breeding of horses, but unfortunately it is not.

A child should be removed from a tubercular mother. Tubercle bacilli may exist in the lungs for years without doing any harm. An autopsy on a man who had died accidentally while apparently in the enjoyment of perfect health, showed the lungs to be filled with miliary tubercles that had probably been there for years, and yet the man was strong and well-nourished and had shown no symptoms of tuberculosis. Dr. Ulrich has known more children to be injured by overfeeding than by underfeeding, and he thinks that children are given the breast too often. Every time a child cries, it is nursed, even as frequently as every half hour. Educate mothers how to feed children.

In the treatment of tuberculosis, however, forced feeding and out-of-door life, plenty of sunshine, and pure air, are important. Dr. Ulrich referred to a little girl, about five years

old who had tuberculosis of the ankle. The child's father was in Denver, suffering from pulmonary tuberculosis. There are many similar instances, and they show a transmission of the disease, perhaps not directly, but through its tendency or diathesis.

DR. CHARLES C. BROWNING, Highland, Cal., called attention to the fact that isolating a child from its tubercular mother is, among the poorer class, impracticable. Parents are not able to put their children out; in many instances, they are unwilling to do so; we can not compel them to and Dr. Browning said that he was not sure that it would be right if we could. Recently, in looking up this subject, which is a vital one in southern California, he found that in a series of autopsies held previous to the first month of life, less than 0.1 per cent. of the deaths were due to tuberculosis. The percentage of deaths from tuberculosis increased rapidly from the third month until about the eighteenth month, then rapidly declined. The manner of infection of those children, he believes, is largely due to the tubercle bacilli being inhaled and admitted through the mouth during the time children are creeping about the floors. The decrease in tuberculosis begins with the period of walking and the increase of independent existence of the child. We can teach parents to keep the floors clean.

DR. R. B. GILBERT, Louisville, asked Dr. Fischer if he agreed with Dr. Koch that tuberculosis is not transmissible through cow's milk. He said that when Dr. Jacobi made the statement that tuberculosis is not directly communicable by the mother's milk, it came to him as a sort of revelation. He thought that such a method of infection was possible, and has always strongly advised against tubercular mothers nursing their children.

DR. A. JACOBI, New York City, said that he meant to say that the transmission of tuberculosis from a tubercular mother was less due to her milk than to the inhalation of her sputum. He certainly did not exclude the possibility or even the probability of the milk being directly injurious. Children have been taken away from tuberculous parents, put into public institutions and have remained well, while on the other hand, healthy children have been placed in tuberculous families and became infected, simply from their surroundings.

DR. C. F. WAHRER, Fort Madison, Iowa, gave it as his opinion that if a child born of two healthy parents was exchanged for a child born of one or two diseased parents, so that the healthy parents were to take care of the child born of diseased parents, and the diseased parents were to care for the child born of healthy parents, the child that is reared by the healthy parents will have a far better chance of life, notwithstanding its inheritance, than the child that was born of healthy parents but reared in unhealthy environment. Every mother should be instructed how to feed her child intelligently, not by food prepared in the chemical workshops, according to the latest fads, but by using common sense methods as agreed on by the best pediatrists. Few mothers will consent to give up a child, and in many instances it is well-nigh impossible. No one knows whether mother's milk will transmit tuberculosis or not. It is not heredity that we must teach people to fear so much as the constant exposure of the child to the infection from its diseased parents.

DR. PAULUS A. IRVING, Richmond, Va., gave a striking illustration of the possibility of bovine infection. In his city there is an infant asylum accommodating about 30 infants. A public-spirited citizen gave it what he thought was a very fine cow, whose milk was sufficient for the entire need of the institution. Soon after the cow was received, it was noticed that the infants began to droop and pine away, and in less than a year only one infant survived. The cause of this high mortality was vainly sought for. Finally, the milk from the cow was suspected. A veterinarian examined the cow and found that she was tubercular. When the animal was killed unmistakable evidences of the disease were found. Such an example furnishes very strong evidence of the transmission of bovine tuberculosis to the human family.

DR. LOUIS FISCHER thinks that the tubercular mother should not only be isolated from her healthy child, but also from her husband and from everyone else who is receptive to tuberculosis. Among 5,000 cases taken at random he found that 1,700 suffered from adenoids, pharyngeal disease and catarrh of the nasopharyngeal tract, 59 showed evidence of pulmonary tuberculosis, and 5 had Pott's disease in addition to the pulmonary manifestations. Of these 59 tuberculous cases, only 2 were breast fed; the rest were bottle fed, the food consisting of grocer's milk, condensed milk and modified cow's milk. The great immunity of breast-fed children from tuberculosis is certainly worth noting. He thinks that condensed milk furnishes the poorest foundation for the child. It is deficient in proteids, contains a great deal of sugar and develops fat in place of muscle. It consists largely of cane sugar, which is put in to preserve it. Many of the children fed on condensed milk suffer from constipation, which is often an early manifestation of rickets. It is largely used by the poorer people, because it is cheap and sold in a convenient form for use. It is this poor form of infant feeding, added to insanitary living apartments without sunshine and fresh air that devitalizes and invites tuberculous infection. There are two usual modes of entrance of the tubercle bacillus: (*a*) By inhalation. (*b*) By food. In inhalation tuberculosis the tubercle bacillus is carried into the nose, throat, bronchi and lungs by means of dust or dried sputum from a tubercular patient.

The tubercle bacillus can also enter the system by means of the lymph channel if inhaled and so enter the circulation.

In food tuberculosis, when infected milk or meat or any article of food containing tubercle bacilli enters the body an infection takes place primarily in the intestine, and enters the circulation by means of the lymph channels.

Dr. Fischer does not believe that we can prove to-day that milk alone is a causative factor of tuberculosis. He believes that there are other conditions which predispose to infection and that there are thousands of people who have tubercle bacilli in their throats, together with all sorts of pathogenic bacteria, and still remain unaffected because their bodies are not in a receptive condition. When, for some reason or other, they get into a subnormal condition, then they are receptive to anything under the sun. He believes that we must await further evidence before we can say that milk alone is a factor that transmits tubercle bacilli to the baby, as it is difficult to trace the bacilli into the body. We have no other theory at the present day than to associate the bacilli in the cow's milk with their effect on the infantile respiratory and digestive tract.

THE PRESENT STATUS OF THE TREATMENT FOR DEAFNESS DUE TO CHRONIC CATARRHAL OTITIS MEDIA.*

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In responding to your committee's invitation to prepare a paper on this particular subject, my first impulse was to decline the task as presenting too many difficulties. The subject is manifestly too broad to be adequately outlined in a single paper. I hope, however, that my paper may serve the purpose of inducing a larger and more useful discussion by others.

Chronic catarrhal otitis media is an elastic term, rather indefinitely applied to a variety of tympanic conditions, which are, perhaps, best considered under the following headings:

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. G. Hudson Makuen, George L. Richards and John F. Barnhill.

1. Chronic tubal catarrh, without marked tympanic changes other than those due to retraction of the membrana tympani.

2. Chronic hypertrophic otitis media.

3. Chronic hyperplastic otitis media; dry middle ear catarrh; otosclerosis.

Obviously no classification is of practical value which divides these cases into groups which can not be recognized clinically. The differential diagnosis is not easily reduced to any system of rules. In the early stages the functional reactions do not greatly aid us, serving merely to locate the lesion in some part of the conducting apparatus. Nor do the physical appearances of the drum membrane, considered alone, afford as reliable data as might be expected. Thus marked retraction of the drum membrane may be found either in simple tubal catarrh, chronic hypertrophic otitis media, or in cases of sclerosis secondary to hypertrophic otitis media. Calcareous deposits may occur in either the hypertrophic or hyperplastic form of otitis.

DIFFERENTIAL DIAGNOSIS.

The differential diagnosis should take into account, therefore, not only the type and duration of the deafness, and the physical defects of the drum membrane and tubes, but also the history of the patient, and, perhaps, most important of all, the manner in which the deafness responds to treatment.

Previous History.—With deafness of one or more years' duration, the patient should be interrogated as to the following predisposing conditions:

(*a*) A history of a preceding obstructive lesion within the nose or nasopharynx is somewhat suggestive of the hypertrophic form of chronic otitis media.

(*b*) Frequently recurring attacks of acute otitis media, whether of mild or severe type, predispose markedly to the development of chronic hypertrophic otitis media.

(*c*) Rheumatism is said not infrequently to be accompanied by local manifestations within the ear. Obviously such lesions, especially in recurrent attacks, might act as a predisposing cause of chronic hypertrophic otitis.

(*d*) Gout, on the other hand, is said to frequently co-exist with sclerotic changes within the ear, and to this extent the gouty diathesis should be considered in arriving at a diagnosis.

Constitutional syphilis, either congenital or acquired, is regarded by German otologists as one of the causes of otosclerosis.

As the time at our disposal is limited, it may be well to bring together briefly the characteristic or distinguishing features—so far as we are able to recognize them—of the three classes of cases under discussion.

In chronic tubal catarrh, the deafness is of tympanic type,[1] and usually of several months' or a year's duration. The past history may be negative or may include an account of chronic nasal catarrh or recurrent attacks of acute rhinitis. The degree of deafness is variable, sometimes clearing up for days or weeks, only to return with a fresh attack or exacerbation of nasopharyngeal catarrh.

Physical Examination.—This usually shows the nose or pharynx to be more or less inflamed. The drum membrane is markedly retracted, but may be otherwise normal. The otoscope during inflation usually gives characteristic signs of tubal congestion or narrowing. If, after inflation, the drum membrane is seen to have resumed in part its normal position, and the hearing is markedly improved, the diagnosis would seem to be complete.

In chronic hypertrophic otitis media, the impairment of hearing may have been noticeable to the patient during several months or as many years. The deafness is of the same character as in tubal catarrh, but is less subject to variations in degree. There may be a previous history of nasal obstruction of long standing; of rheumatic attacks of the usual articular type, or occurring as recurrent attacks of acute tonsillitis. The ear may have been the seat of prolonged suppuration in childhood, or of repeated attacks of acute catarrhal otitis.

Examination.—Inspection usually reveals considerable retraction of the drum membrane, which may exhibit uniform thickening, localized calcareous deposits or the cicatrices resulting from old perforations. It may, on the other hand, be nearly normal in appearance. Evidences of tubal narrowing or obstruction are invariably present.

In such cases inflation should result in moderate but appreciable improvement in hearing, which would confirm the diagnosis of chronic hypertrophic otitis media.

In chronic hyperplastic otitis media the progress of the deafness is often slow and insidious, it being in many cases difficult to obtain from the patient a reliable statement as to its duration. The previous history may include gout or constitutional syphilis, or may be absolutely negative. The eustachian tubes are patent and may be abnormally wide. The physical signs of the drum membrane may be absolutely normal, or may show calcareous deposits. But slight functional gain, if any, results from inflation. Excluding a primary labyrinthine lesion, the above picture would justify the diagnosis of chronic hyperplastic otitis media.

From the above notes, it will be seen that in all these cases the immediate effect of inflation on the deafness is regarded as an important test.

FUNCTIONAL REACTIONS AND THEIR BEARING ON PROGNOSIS.

I would like also to be allowed a word as to the value of certain functional reactions as affecting prognosis.

The deductions to be drawn from the tone limits—i. e., relative impairment of hearing for the upper or lower tones of the musical scale—do not appear to be as reliable as they were formerly thought to be. While loss of hearing for the upper tones undoubtedly points in a general way to labyrinthine disturbance, such impairment may be greatly increased by an obstructive lesion within the tympanum. In certain depressed conditions of the general nervous system, and also with advancing years, the auditory nerves become less responsive to sound waves of every description, and most notably in the two extremes of the range of normal hearing. When such a patient develops an obstructive tympanic lesion, it is not surprising that the range of audition may be curtailed in the upper as well as the lower limit. It is only on the above hypothesis that one is able to explain certain cases in which considerable loss of hearing for the higher tones is found side by side with normal or perhaps slightly increased bone conduction. With such reactions to functional tests, it has not been unusual in my experience to obtain a considerable improvement in the upper tone limit as a result of simple measures directed against a tympanic lesion. Obviously in such a case the change in the upper tone

[1] Presenting functional reactions characteristic of disease of the conducting apparatus.

limit is not to be regarded as an evidence of grave labyrinthine disease, and should not of itself be made the basis of an unfavorable prognosis.

Of much greater prognostic value are marked changes in the perception of sound by bone conduction which, when considered in their relation to other functional tests, furnish our best guides as to what may be expected from treatment. Thus in any case of chronic deafness marked diminution in bone conduction must be regarded as an unfavorable prognostic sign. With this condition the upper tone limit is often considerably lowered, and in this connection the latter is an important sign as further pointing to serious labyrinthine involvement. Marked increase of bone conduction, i. e., increase to the point where a fork of 256 D. V. is heard longer by bone conduction than by air conduction, is also an unfavorable sign to the extent that it usually indicates an advanced tympanic lesion in which the hearing may be considerably improved, but will not be restored to the normal standard. On the other hand, moderate increase of bone conduction is often in cases of slight deafness a sign of good omen as indicating a stage of tympanic disease, for which local measures should be followed by good results.

Before taking up, briefly, the subject of treatment, I wish to state very frankly my belief that there are comparatively few therapeutic measures which have any value in these cases; and that our success in any case will depend on our skill and judgment in the use of these, rather than a resort to many remedies of less known value.

CHRONIC TUBAL CATARRH.

Obviously a catarrhal condition of the tubes may exist for a considerable period without producing ear symptoms. Only those cases, therefore, are of interest to the otologist in which the caliber of the tubes is so reduced as to interfere with the passage of air to the tympanum. The result of such occlusion is always mechanically the same, viz., absorption or rarefaction of the air within the tympanum, with consequent retraction of the drum membrane. The deafness, then, is a mechanical one, and due, not to pathologic changes within the middle ear, but to partial fixation of the membrane and ossicles by atmospheric pressure from without.

Under chronic tubal catarrh, it is, perhaps, admissible for therapeutic purposes to recognize three conditions causing retraction of the drum membrane, viz.: (*a*) Nasal obstruction; (*b*) tubal congestion; (*c*) tubal constriction or stenosis.

Nasal Obstruction.—There are certain cases in which, as a result of an obstructive nasal lesion, the air in the nasopharynx is more or less rarefied with each inspiration. In consequence of this the air pressure within the tympanum becomes constantly negative.

The history is usually that of deafness characterized by periods of amelioration. Interrogation elicits the fact that the patient is at times a mouth breather. On physical examination the drum membrane is found markedly retracted. The physical evidences of nasal obstruction are more or less pronounced. Inflation per catheter, however, results in a fairly good current of air to the tympanum, partial or complete replacement of the drum membrane and prompt relief of the subjective symptoms. The relief thus afforded may last a few hours or several days, when the deafness returns. Closer observation of the patient may now disclose a faulty method of breathing. While not a typical mouth breather, the mouth is frequently opened to compensate the nasal difficulty. Obviously in such a case no amount of treatment by sprays, inflations, pneumatic massage or what not will be of any permanent value until the nasal lesion has received attention.

Chronic Tubal Congestion.—Belonging more properly to this group are those cases in which the tubal mucous membrane is the seat of a chronic venous congestion. These patients present symptoms and physical signs almost identical with those just described. Inflation, however, gives unmistakable signs of obstruction due to congestion, the sounds through the otoscope being at first muffled, rasping or accompanied by râles, then becoming clearer as air enters the tympanum in greater volume. Inflation results in marked temporary relief of the symptoms, and the rapid improvement in the auscultatory signs shows more or less clearly that the lesion is chiefly one of chronic venous congestion.

TREATMENT.

These cases usually respond readily to proper treatment. This should include correction of any condition within the nose or nasopharynx which may act as an exciting cause of tubal catarrh; application of astringents to the inflamed pharyngeal mouth of the tube; regular inflation of the middle ear, at first on alternate days and then at longer intervals.

For adult patients, inflation per catheter possesses the following advantages over the Politzer method: It enables one by means of the clearer otoscopic sounds and the force required in propelling air to the tympanum, to determine with greater accuracy the condition of the tube; to regulate the force of the current of air, and to inflate only the diseased ear. It eliminates the danger—where one ear only is diseased—of producing undue relaxation of the opposite drum membrane.

Many of these cases require no other treatment than regular inflations, with appropriate measures to relieve congestion within the nose or pharynx.

Tubal Constriction.—There is still another class of tubal cases in which the obstruction depends not only on chronic venous congestion, but also to some extent on the formation of new connective tissue. The hyperplasia may occur as a uniform thickening of the tubal mucosa, or as localized deposits having a tendency to contract. During inflation the sounds through the otoscope are insufficient, high-pitched or whistling, clearly indicating the reduced caliber of the tube. With such a lesion we are justified in classifying under tubal catarrh those cases of moderate deafness which show sufficient improvement after inflation to exclude serious lesions elsewhere.

The indications for treatment include those already described under tubal congestion, plus active measures for the restoration of the tube to its normal caliber. While considerable improvement often results from inflation, it usually becomes necessary to resort to some form of mechanical dilatation to overcome the constriction within the tube.

THE EUSTACHIAN BOUGIE.

The technic of introducing the eustachian bougie begins with the proper placing of the catheter within the pharyngeal mouth of the tube. Beyond this there are, in my opinion, two points of major importance in this method of dilatation, viz.: First, the selection of a small rather than a large bougie; and second, that it be al-

lowed to find its own way through the stricture or constriction, rather than be made the subject of force.

When the tube is not actually stenosed, it is probably the contact of the bougie with the diseased mucous membrane rather than its action as a forcible dilator which is of value in overcoming the obstruction. Only in this way can be explained the improvement which sometimes follows the introduction of a small bougie which has met with no appreciable resistance. The eustachian tube is not, like the urethra, a distensible canal. Surrounded in its narrowest part by firm unyielding walls, attempts at forcible dilatation can result only in compression of its mucosa between the dilating instrument and the osseous walls of the canal. When the bougie meets with obstinate resistance at the isthmus, it must be explained on one of three hypotheses, viz.: Either that (1) the bougie is not exactly following the direction of the tube; that (2) the caliber of the bony tube is too small for the bougie; or that (3) a firm fibrous stricture exists at this point. Even in the latter instance the application of force might result in serious injury.

The points which I wish to emphasize are: The danger of attempting to force a large bougie through a small and rigid channel lined with mucous membrane; and the importance of avoiding force in its manipulation.

In my opinion a bougie, the terminal bulb of which measures not more than one mm. in diameter, is as large as should be used in the great majority of cases. The particular style of bougie that should be used is largely a matter of personal choice. Those of whalebone or celluloid are most satisfactory.

DILATATION BY ELECTROLYSIS.

No discussion of this subject would be complete without mention of the electrolytic method of dilatation devised by Dr. Duel of New York. In hospital practice this method has been thoroughly tested by Drs. Brandegee and Kenefick, in the New York Eye and Ear Infirmary; and their reports would seem to leave little doubt as to its value in properly selected cases. In my experience there have been many cases of tubal narrowing or stenosis which have yielded more readily and favorably to treatment by this method than by any other.

When, in a case of simple tubal catarrh, the obstruction has been overcome and a satisfactory gain in hearing attained, the end of local treatment should be considered accomplished.

CHRONIC HYPERTROPHIC OTITIS MEDIA.

Pathologically, these cases are characterized by morbid changes within the eustachian tubes and also within the tympanum. They resemble those described under the last heading in that tubes are usually abnormally narrow and may be practically closed. The middle ear is the seat of a productive inflammation involving primarily the tympanic mucosa. The new connective tissue may be evenly distributed throughout the tympanum, may be massed chiefly in the region of the labyrinthine windows, or may occur as fibrous bands passing between the ossicles and adjacent structures.

Obviously the deafness is dependent on two distinct lesions, either of which alone might cause impairment of hearing, viz., chronic tubal catarrh, with consequent retraction of the drum membrane, and the hypertrophic changes within the tympanum.

TREATMENT.

The indications for treatment are: (1) To re-establish the normal patency of the tubes; and (2) to restore as nearly as may be a normal condition within the middle ear.

The treatment of tubal catarrh has already been described and need not be repeated. Since the tympanic disease is usually secondary to the tubal lesion, the importance of fully meeting the first indication hardly requires argument. The restoration of the balance in air pressure on both sides of the drum membrane is almost invariably followed by a very considerable increase in hearing power. From this point the improvement is usually slow, and will depend on the gradual restoration of the intratympanic structures to their normal condition. To this end nothing is more important than the automatic ventilation of the tympanum through the eustachian tube. Occasional gentle inflation may serve to relieve congestion, to free the ear of accumulations of mucus, and to maintain the drum membrane in its normal position. The employment of stimulating vapors, e. g, of iodin, chloroform, menthol, etc., thrown into the middle ear through the eustachian catheter, seems often to add to the patient's comfort, and may have a restorative influence on the diseased mucosa. Occasional pneumatic massage is of advantage in certain cases. It should be practiced only with the drum membrane under direct observation and with an apparatus producing the smallest excursions of the membrane that the eye can appreciate. These measures should at first be tried tentatively, and continued only so long as continuous improvement in function can be demonstrated.

So much for the plan of local treatment which, in a general way, may be applicable to any case of chronic catarrhal otitis media. There are certain conditions, however, which should be noted as calling for some modification of this routine. The drum membrane, for instance, may be held in an abnormal position by intratympanic adhesions. During pneumatic massage by means of the Siegel otoscope, the excursions of the membrane are seen to be exceedingly limited, and without influence on the hammer handle, the lower end of which may remain in apparent contact with the promontory. In such cases it is evident that inflation will not result in replacement of the drum membrane; and that unless practiced with gentleness and judgment, it may result in further alterations of tension, very seriously influencing the patient's hearing.

Atony of the drum membrane is another condition which should not pass unnoticed. The drum membrane may appear slightly thickened or fairly normal in texture. During pneumatic massage, however, the posterior segment is seen to make unusually wide excursions, clearly indicating a condition of undue relaxation. As a result of this loss of tension, sound waves expend themselves on the relaxed posterior segment, and are not adequately communicated to the ossicular chain.

The practice of making multiple incisions through the relaxed drum membrane has not generally given good results, its failure depending on the fact that the resulting cicatricial tissue eventually weakens the membrane, rather than adding to its tone. Application of paper discs to the relaxed posterior segment increases the hearing power in certain cases. More often no functional gain results. Occasional application of contractile collodion to the posterior segment will sometimes result in a considerable gain in hearing. Its efficacy may be enhanced by inflating the ear immediately before the collodion is applied. Even where no immediate functional gain results from this procedure,

it is sometimes of service in preventing further relaxation of the drum membrane during inflation or pneumatic massage.

ATROPHY OF THE DRUM MEMBRANE.

There are other cases in which the membrane has undergone extreme atrophy, having somewhat the appearance of thin tissue paper. In two cases coming under my observation during the past two years, the drum membrane was so attenuated as to be easily ruptured by inflation under ordinary pressure. It is difficult to suggest any rational treatment for the relief of such patients. They have seemed to me most favorable cases, if any there be, in which to perform the operation of ossiculectomy for the improvement of function.

Fortunately, a fair degree of hearing is not incompatible with marked changes within the tympanum. In the treatment of all these cases the point of first importance is the recognition—when it exists—of a tubal stricture or constriction, and the employment of adequate measures for its correction.

Other than tonics, drugs have no value in this disease, except as they influence some constitutional condition or diathesis.

CHRONIC HYPERPLASTIC OTITIS MEDIA.

Dry middle ear catarrh; otosclerosis.

Under this group the following lesions have been recognized:

1. In typical cases there is a productive inflammation which originates within the tympanum, and in which congestion at no time plays a prominent part. It is, therefore, subacute or chronic from the start. There is an abundant deposition of new connective tissue within the substance of the tympanic mucosa, which is converted into a thickened, dry, sclerotic membrane, closely adherent to underlying structures. This hyperplasia is often most marked in the region of the oval window. The same changes occurring within the eustachian tubes, these passages are often unusually wide. The drum membrane is, therefore, not retracted.

2. There are other cases in which, independently of or in addition to the above changes, a true osseous ankylosis exists. There is a proliferation of new bone in the vicinity of the oval window resulting in osseous union between its margins and the foot plate of the stapes. The hyperostosis may spring from the promontory, from the margin of the oval window, or may be confined to the labyrinthine surfaces of this region. In the latter case, proliferative changes are not uncommon in contiguous portions of the membranous labyrinth.

3. A third class of cases belonging to this group are those in which sclerotic changes occur as a final stage of chronic hypertrophic otitis media.

TREATMENT.

The results of treatment are not encouraging. The prediction of Politzer that the deafness occurring in advanced stages of the disease will remain forever beyond the ability of the otologist to cure, is one which few at the present time will care to contradict.

Inasmuch as it is impossible clinically to exclude osseous changes in the stapedial region local treatment is to be entered on tentatively. Were the diagnosis made early there is probably no class of cases in which constitutional treatment would give better results. The patient should be placed in the best possible hygienic surroundings. Tobacco and alcoholic drinks should be used in the greatest moderation, or not at all. Constitutional syphilis should receive thorough and persistent treatment. Gout or rheumatism, or in fact any constitutional diathesis, should receive due attention. Occasional exhibition of potassium iodid is thought by many to be helpful in these cases, and is made a part of the general routine.

LOCAL TREATMENT.

In the early stages benefit may result from simple measures aiming to prevent ossicular fixation. To this end occasional pneumatic massage may be employed. Forcible inflation at long intervals may also be of service. Local medication in the form of stimulating vapors may be used to increase the local blood supply, a result favoring the restoration of the mucuous membrane to its normal condition. Obviously these measures can have no beneficial influence in those cases complicated by osseous changes at the oval window.

There is a later stage of the disease in which the drum membrane, malleus and incus, instead of aiding in the conduction of sound, seem to act rather as a barrier to the passage of sound waves to the inner ear. Palliative measures are powerless to relieve this condition.

SURGICAL MEASURES FOR THE IMPROVEMENT OF HEARING.

Various operative procedures have from time to time been proposed for the relief of deafness due to intratympanic adhesions. Division of the posterior fold; of the tensor tympani tendon; of the stapedius; severance of adhesions between the umbo and promontory; any of these measures, plus division of adhesions between the crura of the stapes and the walls of the oval niche, are among the operations which have been performed for the improvement of function. The fact that they are now seldom discussed in otologic literature is perhaps a sufficient commentary on their value.

The operation of ossiculectomy, i. e., removal of the drum membrane, malleus and incus—is practically the only surgical measure which is now considered for the improvement of hearing. As the results of this operation have been subjected to the crucial test of time, the number of its advocates have diminished.

Among recent expressions of opinion as to its value, we find the following:

Politzer[1] says "the results of this operation were so unsatisfactory that it is hardly spoken of at the present time." He states that he has seen cases in which the operation was "followed by great loss of hearing, ending in deafness."

A. H. Cheatle[2] of London, considers the operation justifiable, the patient being made to understand that it is more or less of an experimental nature.

Dench[3] records favorable results and considers the operation a useful one for appropriate cases.

The operation is based on the hypothesis that the drum membrane, malleus and incus are no longer of value in the conduction of sound, and proposes their removal in order that the stapes acting alone may be permitted to take up sound waves from without and transmit them to the inner ear.

Unfortunately the subsequent effective mobilization of the stapes is often difficult or impossible. This difficulty and the tendency of adhesions to reform between stapes and adjacent structures, have led many to condemn the operation *in toto*.

The good results reported by Dr. Dench are presuma-

1. Politzer: Diseases of Ear, p. 823.
2. Wright: Diseases of Ear, pp. 1191-3.
3. Dench: Medical News, February, 1903.

bly explainable by a very happy and fortunate selection of cases.

In considering the uncertainties of the operation it must be remembered that in the class of cases for which it is proposed, the condition so far as the hearing is concerned is usually a desperate one.

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THE HOT-WATER DOUCHE IN TREATMENT OF CHRONIC CATARRHAL DEAFNESS.*

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CHICAGO.

So many factors enter into the causation of the deafness accompanying chronic middle ear catarrh that any treatment looking to the relief of the condition must be directed along several different lines. For this reason when any new treatment is presented it is, as a rule, mentioned that it is to be used in connection with the usually practiced measures. Therefore, in presenting the method I shall suggest, it is to be understood that the treatment of nasal and nasopharyngeal disease and of tubal disease will be carried out as seems necessary in each case.

Recognizing the value of heat in causing the absorption of inflammatory exudates even when such exudates have become partially organized, there has been a persistent effort on the part of otologists to devise some practical method by which this active agent may be utilized in the treatment of diseases of the middle ear. With this object in view a number of instruments have been devised for the purpose of applying a stream of hot air either to the drum membrane through the external canal, or else to the middle ear through the eustachian tube.

There is no doubt of the possibility of applying a stream of hot air to the drum membrane through the external canal, but many who have tried the application through the eustachian catheter have expressed grave doubts as to the possibility of delivering a stream of air through the catheter so that it may reach the tympanic cavity hot enough to be of much value. With the various instruments used by me I have been unable to satisfy myself of any good results secured by the eustachian hot-air douche. Although practiced in a number of cases during a period of several years, it was invariably abandoned because of lack of results commensurate with the time and labor expended by the operator and the expense to the patient.

Considering that the tympanic cavity is the part which we usually desire to reach by the absorbent agents, and that this cavity is a shallow one, separated from the external canal by a thin membrane only, it would certainly seem that sufficient heat might be conducted to the cavity from the external canal without the necessity of resorting to the more difficult, doubtful and not always harmless expedient of forcing the heat through the eustachian tube. That the effect of the heat on the more or less occluded eustachian canal should be of benefit regardless of the effect in the tympanic cavity can not be denied, but that I have seen any individual case so benefited I am not able to assert.

In the use of the hot-air douche through the external canal, several difficulties present themselves: It is almost impossible to deliver a stream of air at an even temperature hot enough to be of value. The patient will either complain of the burning and draw away, or else the air soon ceases to be hot enough to be effective.

The treatment must remain wholly in the physician's hands. This means that it can not be used more than two or three times a week in the case of the average patient on account of the expense. It also means a great loss of time to the otologist. The douche should be in operation ten minutes for each ear, so that with other necessary treatment, preliminaries and delays, not less than thirty minutes will be required for each patient.

A trial of the hot-air treatment in which the heat is applied through a canvas tube attached to cover the ear, impressed me that this is a most clumsy way of reaching the part which we really desire to reach, and I was very uncertain as to how much heat reached the tympanic cavity. The same objections apply, though to a lesser degree, to this method as to the hot-air douche.

With the objections to the treatment in vogue and looking for a method whereby as good or better results might be attained in a more simple way, the use of hot water suggested itself.

In the course of a general practice, having so often seen the melting away of the exudates, inflammatory and non-inflammatory, from the pelvic cavity through the agency of the hot douche, it occurred to me that in the tympanic cavity we had a region far more easily reached by the douche and one in which the exudation lay much nearer the stream of hot water than in the pelvic cavity. Although the hot-water douche is in almost universal use in the acute inflammations of the tympanic cavity, I could find no literature on the use of this agent in chronic catarrhal conditions. When first experimenting with the use of hot water in the ear I invariably began the treatment in the worse ear, after having treated both ears sufficiently by the ordinary methods to ascertain about what rate of improvement might be expected.

In these cases the ear treated with the hot douche immediately showed a greater improvement than the other ear, and in no case was there any injury shown in the ear thus treated.

In the use of hot water the difficulties attending the hot-air treatment were not encountered. In the first place, this branch of the treatment is placed entirely in the patient's hands, thus allowing it to be used twice daily if so desired.

Secondly, the doctor is spared the necessity of devoting so great an amount of time to each treatment, the patient coming to the office only to have the usual treatment applied, and now with the stimulating effect of the heat on the contents of the tympanum and attic, the air or vapor douche through the eustachian tube or the external masseur becomes much more effective in loosening adhesions.

TECHNIC OF DOUCHE.

The patient readily adapts the heat of the water to his comfort. My instructions are to use the water as hot as can be borne without burning. A specially small tip is ordered, or a straight glass medicine dropper may be inserted into the tube of the fountain syringe, the patient being instructed just how to hold the tip and how deep to insert it. The fountain bag is hung from 18 to 24 inches above the ear, or just high enough that the water will be surely carried to the drum membrane.

* Read at the Fifty-fifth Annual Session of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. G. Hudson Makuen, George L. Richards and John F. Barnhill.

If the tip be small and the bag not too high, two quarts of water will run for about ten minutes and will remain hot enough through that time. Allowance must always be made for the cooling of the water in passing through the tube, so that the water in the bag itself must be too hot for comfort. If the matter is fully explained to the patient he will soon learn to make proper allowance.

It must be insisted that the patient feel the continual impact of the stream of water against the membrane, for it is easy for the outcoming and ingoing streams to neutralize each other so that only a small portion of the water reaches the membrane. I am informed that Dr. T. W. Chambers has devised an ear tip with a return tube which much simplifies the treatment in the hands of the patient. The treatment has usually been used once a day, ten minutes for each ear.

Some patients will complain of dizziness from the injections, in which case the force of the stream is too great, the water too hot or the treatment too long, and these various points may be investigated.

In some cases it has been found more satisfactory to have the patient use a demulcent solution in the ear after douching to prevent the unnatural dryness which results from the frequent washing. Glycerin and water, one or two drams of glycerin to the ounce, or one of the simple hydrocarbons, as albolene or benzoinol, has been found to meet the indication.

LIMITATIONS OF THIS TREATMENT.

This treatment will necessarily have its limitations. Cases in which the source of deafness lies in the internal ear are not very likely to be benefited. It is particularly adapted to those cases in which there is evident congestion and inflammation of the drum membrane. A drum membrane displaying considerable patches of sclerosis is very likely to show improvement. Tinnitus when due to intratympanic causes has been readily relieved by the hot-water douche. When due to conditions in the internal ear, it is not to be expected that treatment directed to the middle ear will relieve it, though it is quite possible that the internal ear may be affected to some degree by application of heat in such close proximity to it. In nearly all cases there is tubal occlusion of greater or less degree; this, of course, will be affected only indirectly by treatment through the external canal. That improvement of the health of the tympanic lining and contents will necessarily cause some response in the eustachian tube is obvious, although the response may be but slight.

I will cite two cases of deafness and one of tinnitis as illustrative of the results attained. I will state that I have no miraculous improvement to report. Were I to make such a report, you would be justified in dismissing the matter as too evident a fabrication for further consideration. I could wish that the improvement had been greater, and I confidently expect further treatment in the same cases will give additional improvement:

CASE 1.—Miss F. E., age 20 years, Dec. 5, 1903.

History.—The patient had deafness of 10 years' standing. Had earache in infancy, but never any rupture of drum membrane. Moderate sclerosis of both tympanic membranes. Nasal passages somewhat obstructed up to three years ago, when they were cleared out by removal of bone and are now in a fairly normal condition. Received considerable treatment for the ears by an expert otologist at the time of nasal operations, but with practically no results.

Examination.—Hearing, left, watch, 3 inches; whisper, 24; right, watch, contact; whisper, 12. (I would say that unless specially stated otherwise I use the loudest whisper possible.) Tuning fork, bone conduction excellent on both sides. After inflation, left, watch, 3 inches, and whisper, 30; right, watch, 1 inch; whisper, 24.

Treatment and Result.—After treatment with nebulized mentholated oil through catheter December 5, 8 and 11, no particular improvement noted except that right ear gave watch one-half inch before inflation. Also used moderate massage with Siegle's otoscope. December 11 ordered hot-water douche in right ear. Two weeks later ordered hot water in both ears. January 27, stopped hot water. Under two treatments a week with catheter and massage there was fairly steady improvement, which continued after stopping hot water, so that by February 2, after inflation, the hearing was: Left, watch, 5 inches; whisper, 9 feet; right, watch, 4 inches; whisper, 3 feet. Hot water was again used for three weeks and on March 12 the test showed: Left, watch, 10 inches; whisper, 9 feet; right, watch, 7 inches; whisper, 3 feet.

While the improvement in this case was not great, yet it was quite marked. The patient stated that under the treatment three years ago she received no benefit, while now she realized a very encouraging improvement, and that so far as she could judge, the treatment was exactly the same both times except for the hot douche.

CASE 2.—Miss L. I., age 26, May, 1903.

History.—Deafness in both ears increasing for past three years, but had existed some years before. Both tympanic membranes considerably sclerosed, nose and throat in fair condition except septal thickening on left side. Has had treatment for one or two years by Politzerization and mechanical massage, with no improvement.

Examination.—Test, left, watch, 1 inch; whisper, 8 feet; right, watch, 1 inch; whisper, 8 feet. Bone conduction better than air.

Treatment and Result.—Removed septal thickening and used nebulizer with catheter, with some improvement—watch increasing to 6 inches for left and 4 inches for right; whisper, 15 feet.

Patient was away during the summer. In the fall occasional inflation kept up hearing to about the same standard except that the right ear showed only 2 inches for the watch. January began the use of hot-water douche. January 21 hearing showed: Watch, left, 9 inches; right, 5 inches; whisper best that it has ever been. This condition has been maintained under occasional inflation after use of the hot water for about four weeks. In this case inflation by catheter has been continued once or twice a week up to the present and the last test, May 31, showed: Watch, left, 20 inches; right, 11 inches; soft whisper, 15 feet, both ears.

In judging of improvement, I always insist that the patient shall make home tests as a control for the office tests. The watch test is not at all a sure indication as to voice hearing, and the patient becomes accustomed to the physician's voice, thus often showing an improvement which may be apparent instead of real. Both these patients, as well as the others having this treatment, brought very satisfactory reports as to improvement in hearing in their ordinary environment.

CASE 3.—A. C. F., age 40, April 23, 1904.

History.—The patient has had ringing in his right ear for the past three or four years. When ringing is bad, confuses him. Has had attacks of vertigo at various times. Sometimes six months without attack. Family history bad; father, grandfather, uncle and aunt died from apoplexy, one uncle of tabes. Examination: Right tympanic membrane sclerosed and somewhat congested along manubrium. Tuning fork C 2048 heard in air, but not on bone. C 128 heard better on bone.

Treatment.—Under hot douche tinnitus improved at once. Patient left city after second examination to be gone some time and I can not report as to effect on hearing. I am satisfied

the vertigo, and to a great extent the tinnitus, are due to digestive disorders and may be controlled by the patient by proper diet.

REMARKS.

A number of patients have shown decided improvement in hearing, and relief of tinnitus on using the hot douche after improvement had ceased under the usual treatment without hot water.

After the use of this method of treatment in suitable cases for the past five months, I have no hesitancy in recommending it with considerable confidence as a valuable addition to the ordinary measures used in treatment of chronic catarrhal deafness. While the period in which it has been used is not long, and the number of patients treated has not been large, yet hydrotherapy is so old and well established in other regions of the body, and is so especially adapted to the region under consideration that it has seemed to me quite proper to bring the method before the Section for discussion and criticism.

DISCUSSION

ON PAPERS BY DRS. KERRISON AND HEAD.

DR. W. S. BRYANT, New York City—The term chronic catarrhal otitis media covers nearly everything except suppuration that occurs in the middle ear. It is impracticable to treat all these pathologic changes as one condition which can be handled as suppuration can. The long list of remedies mentioned are all well known and have a certain standing with the profession. The pathology should be better worked out and generally understood. How this is to be done in this country it would be hard to say, on account of the difficulty met with in getting pathologic material. Dr. Head has made an important suggestion in treatment, in line with experiences I have had in gynecology, and one which offers a reasonable hope of success. The dangers, if there are any, aside from the distress of the patient due to too hot or too forcible injection, are those of starting up a low-grade inflammation in the tympanum, with an increase of deafness.

DR. S. F. SNOW, Syracuse, N. Y.—It has been my experience that all bad cases of catarrhal deafness are due to well-defined causes and that if we can determine these causes and remove them the problem of treatment is much easier than generally supposed. We must not forget that the olfactory regions of the head are often much occluded, deflecting the current of air into the lower part of the nostril, the current taking its course along the floor of the nose and escaping by the eustachian orifice. If we wish to get the eustachian tube in normal condition we must alter the course of that current of air, and this will require nasal surgery. We must get the nose as nearly physiologically perfect as possible, as a preliminary step in all cases. Then, if this is done, it is not well to forget the systemic disturbances which, in many cases, are the all-important factors. If our patient is one with a turbid liver, whose system is infected by autointoxication from the bowels, that factor must be taken care of. If this is done, the process of absorption from inflammatory products may be facilitated by hot water or stimulating vapor. Beautiful results are often obtained, not in the cases with osseous changes around the stapes, but in that multitude of cases in other stages. Here our results will depend largely on the amount of work we do. I have had a large experience with this class of cases, though I confess that I have been slow to put hydrotherapy into practice. I intend to try it.

DR. W. H. F. FITZGERALD, Hartford, Conn.—It seems to me that instead of looking for something in the mechanical line or for new therapeutic measures, we should allow Nature to help us a little in this direction. We all know that from 80 to 90 per cent. of aural difficulty is due to the fact that the individual does not use his nose as he ought to. The first thing to be corrected is the habit of mouth breathing. I venture that there are not half a dozen members of this Section present this morning who breathe as Nature intended they should. Those who are not absolute mouth breathers talk, sing, whistle and take most of their air through the mouth. Every breath taken through the mouth is at the expense of the ear and the entire respiratory tract. I have followed this up carefully for two years and a half and have given up nasal douching, and teach my patients how to breathe physiologically. I should hesitate about telling you the splendid results I am getting in this way. I have followed this line of work for a number of years, having worked in Europe with Professor Politzer and others for nearly three years, and in the Boston City Hospital for two years and a half, so that I think I am in a position to criticise the usual methods of treatment. In the *Medical Record*, September 5, I made a note of this method, and I am told that it was the first time it ever appeared in print. I can not understand why this important point has been neglected. Normally we know the nose was intended to breathe through, and if the nose is not normal it should be made so and these patients should be taught to breathe properly.

DR. H. E. SMYTHE, Bridgeport, Conn.—I wish to call attention in this connection to the use of vibratory massage on the mastoid. While in charge of the dry middle ear cases in Dr. Wendell C. Phillips' clinic at the Manhattan Hospital, New York City, I employed vibratory massage extensively, and although the treatment was not confined to massage alone, the subjective noises were unquestionably benefited by it, the hearing in some cases seemed improved, and the progressive secondary dullness of the auditory nerve, so common in these cases from lack of use, was, I believe, retarded. An inexpensive apparatus which I have made use of in my office for the past year for this purpose is attained by attaching a pad to a Blake nasal saw handle in place of the saw blade and using it with a flexible shaft and motor. The vibrations are not so rapid as with a more expensive apparatus, but the results have been very satisfactory.

DR. J. A. STUCKY, Lexington, Ky.—We come here to present our failures as well as our successes. I want to say that I have practically disregarded pneumatic massage except in very carefully selected cases. I think that there is danger of increasing the relaxation of the drum membrane. Our average case of chronic catarrhal middle ear trouble is overtreated locally. I think a great deal is to be expected from constitutional treatment. I want to speak in favor of the massage method mentioned by Dr. Smythe, for it will undoubtedly give good results. It takes a little time and we can teach an assistant how to give it. It should always be given in the recumbent position and with an apparatus capable of giving a stroke felt through the whole head. Patients with this trouble soon become listless, and it is a good plan to get them to test their hearing and acquire the habit of listening, paying attention with the ear as well as the eye. I will try the hot-water treatment.

DR. J. M. RAY, Louisville, Ky.—It seems to me that the whole question of the treatment of chronic catarrhal middle ear disease depends primarily on the diagnosis. Before any line of treatment is instituted a thorough functional test of the case should be made. As Roosa and others have pointed out, the ear possesses a surplus amount of hearing and a great deal of this can be lost before the patient begins to think about his ear; this is especially true in cases without tinnitus. Thus in most cases the disease has passed beyond the eustachian tube and pathologic changes have occurred before they come to us. I believe there are quite a number of cases of the kind known as oto-sclerosis, in which there is no change at all in the mucous membrane of the middle ear, the process being primarily a disease of the bony wall of the labyrinthine capsule. I fully agree that cases of tubal catarrh are, as a rule, well managed by nasal treatment, inflations and injections of solutions through the catheter. When we come to catarrhal middle ear disease proper we have a more difficult proposition to encounter. When we look around on the number of patients in our offices with nose and throat trouble, and see the number of cases of deviated septi, nasal polypi, etc., without any ear disease at all, there is a reason why we must consider what influence the nose has on these cases. I do not believe that we

ever see cases of well-defined middle ear disease influenced by nasal surgery. It is well to bring about the normal function of the nose, but if the characteristic changes are once fairly established in the middle ear I doubt very much if we gain anything at all by nasal surgery.

DR. R. W. SEISS, Philadelphia—We often lose sight of the fact that many forms of middle ear catarrh are an extension of one process, and our anatomy and physiology are often weak. These are all cases of fibrosis, beginning as a simple exudation of inflammatory cells; hence, we should avoid any thing that would cause fresh migration of leucocytes. The eustachian tube is not a dilatable canal; I have absolutely abandoned the use of the bougie, and I do not see how it can be introduced without rubbing off the ciliated epithelium, and if this is done it is replaced by the squamous variety, serious results following. As to the dependence of ear disease on the nose and throat, it starts there in all cases, but the immediate connection is often not apparent. We have no idea why certain catarrhal patients have ear disease and other persons do not. As to pneumatic massage, we are familiar with the good effects of massage on other parts of the body, and its value in causing absorption has been proved experimentally on the rabbit. The reason some men do not get good results from it may be because they do not use it properly. The advanced cases of sclerosis are as absolutely hopeless as is locomotor ataxia. All that can be done is to help the patient along. I use external vibration and that does some good, but it is simply another string to our bow and is not curative. As to excision, I was among the first to operate, some eighteen years ago, but I have never seen any good results from it in anyone's hands in aural catarrh. One case was recently shown me as being "successful," but the patient told me he was "nearly crazy" with tinnitus.

DR. E. PYNCHON, Chicago—This condition is far more prevalent than we recognize. We usually do not consider that we have catarrhal deafness to deal with until the patient complains of deafness. We ought to make a functional test of the hearing in each nose and throat case treated. I make a practice of so doing and find in about 75 per cent. of cases presenting themselves for nose and throat treatment some impairment of hearing, and often unrecognized by the patient. These chronic catarrhal cases are much more amenable to treatment in the early stages, and it is our duty to discover them in time to benefit them. I am in the habit of doing very little in the way of ear treatment until I have corrected those conditions of the nose and throat which have preceded the ear trouble and are causative factors. One speaker said that he thought patients with marked nasal trouble had no ear disturbances. I must disagree with him. The patient may not make any complaint of it, but an examination will generally show that the hearing is below par. Another speaker mentioned the importance of introducing methods to correct mouth-breathing, which, in other words, is simply an indication of nasal stenosis. There are two conditions which I find are most often instrumental in causing tubal trouble. The first is enlargement of the middle turbinal, and the second a buried or submerged condition of the tonsil, which is usually associated with chronic pharyngitis. Just how these submerged tonsils affect the eustachian tube is problematic, but it is probably first through continuity of tissue; second, through the swallowing of the secretions; third, through the increase of circulatory disturbances; and fourth, through the bulk of the tonsil. In such cases complete removal of the tonsil leaves a cavity large enough to hold the end joint of my index finger.

DR. JOHN O. MCREYNOLDS, Dallas, Tex.—I wish to report an accident which materially relieved a case of chronic catarrhal deafness which had resisted all treatment. This patient was bathing in the Gulf of Mexico and arose to the surface after diving and discovered that his hearing was perfect. A number of days later the deafness returned.

DR. S. MACCUEN SMITH, Philadelphia—We should aim to establish free nasal respiration. I believe we should first correct the nasopharyngeal trouble which is the cause. The deafness is entirely a different matter. For a few years I used both catheter and bougie very frequently. I found later that I was doing damage in using either one too frequently, and each succeeding year I have used them less, especially the bougie. I had a case recently in which the bougie broke off in the eustachian tube and the patient developed tubal inflammation, which extended to the ear and acute suppuration resulted. The physician in charge turned the case over to me and I made a free incision in the drum membrane, but it seemed impossible to keep this open. I eventually found it necessary to remove the malleus, incus and drumhead to keep the wound open. All symptoms finally subsided and what became of the portion of the bougie I do not know. It may have been discharged at some time, but I mention the case to show what may happen with the bougie. As regards removal of the ossicles and drumhead, eight or ten years ago I performed a series of 160 operations of that character on various cases involving the ear, sclerotic cases, the majority being patients who were willing that anything be done that would relieve them of the noise and vertigo. In practically all of these cases there was considerable improvement primarily. In very few, however, was this improvement maintained; in a few weeks the improvement became less marked and eventually they arrived at the point from which they started, and probably the hearing decreased more rapidly than it otherwise would have done. There were a few cases in which the improvement was maintained, and after eight years I still see some of them with very good hearing. I believe that will bear out the experience of Dr. Dench, who, in a scientific way, has got it down to a very fine point and can select his cases for this operation much better than I can ever do. We have been using hot air with some success. About three years ago I saw a patient in a town in Pennsylvania who had chronic catarrhal deafness. I told the attending physician that I saw little to be done except correct the catarrhal condition, which he was already doing. He went home, however, and started in with irrigations of hot water in the ear, allowing three quarts to run in every second day. Six months later I was perfectly astonished to see the improvement that had taken place. All the noises and vertigo had entirely disappeared.

DR. B. A. RANDALL, Philadelphia—I have used hot air, but expect little from it. In acute inflammation I have confidence in the douche in the external ear and shall use it in these catarrhal cases. These patients are numerous in class and character, as well as in absolute numbers. The statement made fifty years ago that one adult in three is deaf in one or both ears is well borne out to-day I do not believe the typical sclerotic cases with change in the labyrinth capsule are very numerous. The other form, which is amenable to good treatment by establishing proper nasal respiration and practice of the individual in good breathing, is undoubtedly of great importance. Harrison Allen, the father of rhinology, insisted strongly on the point of teaching patients how to breathe. When this is done the catheter treatment, carefully employed, but not kept up too long, will cure or benefit a very large proportion of these cases. The measure which I have set in dealing with this class of cases is a very practical one. We must treat the patient again before the benefit of the previous treatment is lost. When treatment after some six weeks ceases to give growing duration of benefit it is suspended; pneumatic massage should be kept up and hot gargling, by which the astringent heat is applied where the gargle itself does not go. When we begin to note relapse it is time to begin treatment again, though the course of treatment should be shorter. This is old-fashioned treatment, and not brilliant, but it is rational and commends itself to experience.

DR. E. B. DENCH, New York City—I do not think anyone will doubt the advisability of opening up the nose and establishing good breathing in these cases. Yet it is true that we find some of our most difficult cases have perfectly free nasal breathing. Every case must be treated individually and not according to any set rule. If the eustachian tube is obstructed it must be opened up mechanically and the bougie is the only thing that will do this; it does not make much difference what

kind of a bougie is used. Use anything that will go through. External massage over the mastoid does not appeal to me, but I am glad to hear of the good results. I have found massage advantageous over the eustachian tube, and I think massage of the tissues of the neck valuable in certain cases. It can be applied by the vibratory apparatus or by the hands. It seems to me that massage over the mastoid would be productive of evil results, but others have found it beneficial. I am surprised no one has mentioned massage by means of sound, the massicon. I have seen it used by other people, and in every case the result was bad. Marvelous reports have been given out by some men, but I can not recall a single case where the ultimate outcome was not unsatisfactory.

I have been quoted in regard to ossiculectomy and I agree with Dr. Smythe that it is of value in selected cases. The patient must understand that the surgeon is very human and that the result may not be good even in selected cases. We are often afraid to operate on cases in the very early stages, and it would be better if we would do this early. The cases I operate on are those in which the hearing is reduced, tone conduction increased, lower tone limit elevated and the upper tone limit is normal. I never touch a case where I have diminished bone conduction or reduction of the upper tone limit. I have had some poor results, but, as a rule, they are good in selected cases. I follow Dr. Randall's plan exactly and I suppose that is why I get good results. Repetition of treatment must be governed by its effect in each case. I have often found that after these patients have reached a certain point they complain that the hearing is temporarily impaired after treatment, and then it is time to stop for a while. They can fix the length of the interval much more accurately than the physician. I think hot water may be successfully used in certain cases, but it is more applicable to hypertrophic otitis than to the hyperplastic form. There we have a condition analogous to pelvic cellulitis and hot applications may be of benefit. But I should not look for benefit in chronic hyperplastic otitis media. Where there is a history of repeated attacks of subacute inflammation following cold in the head, etc., the hot water treatment might be of decided benefit. We must remember that we are dealing with a different tissue from that of the pelvis and that this tissue is not so readily acted on by hot water.

Dr. J. J. Kyle, Indianapolis—The object aimed at in the treatment with hot water and with vibration is the same, i. e., stimulating the metabolism of the middle ear and absorption of the exudate. I think the vibration treatment is better than hot water. If you leave the hand in hot water for a time, you will find that the epithelium shrinks; inject water into the nasal chamber and you get the same effect. Throw it into the ear and you have the same result. In the treatment of catarrhal conditions, it would be better to use normal salt solution to stimulate absorption. My results with the vibratory treatment have been good, but there is no one case that can be treated just like another. I have removed obstructions in the nose and throat and found the case get worse. Some cases have gone to the coast with satisfactory results. We simply have to be governed by the circumstances in each case.

Dr. Philip D. Kerrison—As to the value of the eustachian bougie, which one of the speakers condemns as injurious to the tubal mucosa, we must remember that in the cases in which the bougie is indicated we have to deal with a mucous membrane which is already diseased. If the tube is stenosed, or considerably narrowed, the first and most positive indication is the restoration of its normal caliber. When this can not be accomplished by inflation, the bougie becomes a necessity and must be employed. After the patency of the tube has been reestablished, I believe that the subsequent treatment should be continued only so long as continuous functional improvement can be demonstrated. When the hearing tests show that no functional gain is being accomplished, the treatment—for the time at least—should be discontinued. This I think is important.

Dr. G. P. Head—When we remember the results secured in very large joints of the body, in ankylosis, by the combined use of heat and massage, it seems to me we have not very much right at present to limit the effect we may get in hyperplastic or hypertrophic otitis media by the combined use of some form of heat and massage.

The Elimination of Disease.—Surgeon-General Wyman of the United States Public Health and Marine-Hospital Service delivered an address at the University of Missouri, Columbia, Mo., Sept. 26, 1904. He took as the subject of his remarks "The Elimination of Disease." He referred first to the great epidemic diseases, such as cholera, yellow fever, bubonic plague and smallpox, and showed how, under modern methods, these diseases have lost their terrors. He declared that there was not one of them that was not amenable to treatment by scientific repressive measures, and stated that the day is not far off when the dread born of these great epidemics will be a matter of history.

He then referred to what he termed the lesser epidemic diseases, and stated they were in reality of greater importance than the others; that they caused more sorrow, a greater number of deaths, and greater physical suffering than the others, but that these, too, can be eliminated. By these lesser epidemic diseases he meant such diseases as tuberculosis, typhoid fever, measles, scarlet fever, malarial fever and diphtheria.

He spoke especially to the students of the university as the men who in the future will have the molding of public opinion from which will be crystallized the necessary laws, organizations and other means for the elimination of these diseases. He declared that while many of his audience might deem this idea Utopian, it really is not Utopian. The end would be attained through an enlightened public sentiment, by a wider and more popular diffusion of sanitary knowledge, and by the perfection of municipal, county, state and national health organizations. Already the co-ordination of these various bodies has been in a measure secured—at least, a good beginning has been made—and it devolves on the people, the voters, to make impress on their city councils, their state legislatures, and the National Congress, so that the official health organizations shall be made perfect and adequate appropriations be made.

He declared that the time is near at hand when the people themselves will be unwilling to have remain insanitary conditions which permit the development of diseases that may be prevented by improving the environments of man; so that pure air and plenty of it, sunlight, pure water supplies, and effective disposal of wastes, will be as strongly demanded as is now the cleanliness of the household.

He showed the influence of international effort to this end, through international sanitary conventions—both official and unofficial in character—and how the influence of one nation on another is becoming daily more acutely felt.

He appealed for a support of these ideas by reason of their effect in the general advance of civilization and in placing humanity on a higher plane of living; that with removal of insanitary environments and the resultant health of body and mind, all other efforts being made for advancement along lines represented in the recent World's Congress of Arts and Science would be enhanced.

He closed with an appeal for the development of public sentiment which will demand existence under more perfect conditions.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 DEARBORN AVENUE . . . . CHICAGO, ILL.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, NOVEMBER 12, 1904.

THE ACTION OF THE X-RAYS IN LEUKEMIA.

Since the publication, in August, 1903, of Senn's report of a case of leukemia treated with the *x*-rays, the number of recorded cases has been increasing weekly. In March, 1904, at the time that Brown[1] published the second recorded case, we commented editorially on the subject, mentioning the fact that the way in which the rays acted was obscure, and suggesting conservatism in drawing conclusions as to the permanent effect of this form of treatment. The publication of the numerous cases above mentioned and the accumulation of certain scientific data make it worth while to draw attention to this subject once more.

The experimental work of Heineke[2] seems to throw some light on the *modus operandi* of the *x*-ray in leukemia cases. This author shows that the exposure of certain of the lower animals to the action of the *x*-rays leads to definite changes which affect particularly the blood-forming organs and the blood. The changes in the spleen affect the follicles, and in the lymphatic apparatus of the intestines, pharynx and other portions of the body the germinal centers are particularly affected. The changes which take place after the application of the rays are in the form of a necrosis of the cells of the affected part, the necrotic particles being removed by phagocytes. These changes begin to occur from eight to twelve hours after exposure to the *x*-rays, and reach their maximum at the end of about twenty-four hours. The changes in the bone-marrow are quite intense, and there may be destruction of the bone-marrow elements on a large scale with their replacement by fatty tissue. The destruction of leucocytes in the circulating blood, while it undoubtedly takes place, is slight in degree. The point of greatest importance brought out by these experiments is the specificity of this reaction, the changes being limited to the blood-forming organs, and not affecting the other tissues of the body. It seems reasonable to assume that these changes occurring in the animal body may, at any rate in part, be the same as those which occur in man. There are, however, certain difficulties in the way if we desire to assume that all the changes which occur as the result of *x*-ray treatment can be explained on the basis of this experimental work. The mere decrease in number of the leucocytes and the decrease in size of the spleen can doubtless be explained by the specific destructive action of the rays, but this will not explain the qualitative changes in the white corpuscles. It is to be noted in looking over the reports on this subject that the decrease in the number of the leucocytes under *x*-ray treatment was sometimes accompanied by a normal differential count and sometimes not. In some cases, even after the spleen had greatly reduced in size and the number of leucocytes was normal, the differential count still showed the presence of myelocytes in the circulating blood. Evidently something else than a mere destructive agency is needed to explain such qualitative changes.

The clinical reports of the last six months, most of them of American origin, a few of French and German, show that the *x*-rays have a palliative effect on leukemia. In the great majority of the reported cases the patient has gained in strength and weight, the color has improved, and often the patient has regained the appearance of health. In some instances unpleasant effects have been observed, and the treatment has had to be temporarily discontinued. Aside from the unpleasant local effects of the *x*-rays, some patients have suffered from fever, headaches, weakness and other unpleasant symptoms, which may have been due to a too rapid destruction of leucocytes with absorption of broken-down cell products. While spontaneous improvement of this disease, similar in all respects to the improvement under *x*-rays, may occur, studies of series of cases which were treated before the *x*-ray treatment was established show without doubt that such spontaneous improvement is very much the exception under normal circumstances. If there was any doubt of the action of the rays, some of the published charts, showing decrease in leucocytes during *x*-ray treatment, and increase during absence of treatment, would dispel it.

Whether the apparent cure which has resulted in some cases is a permanent one is the important question, and time alone will answer it. The blood reports in the recorded cases are, unfortunately, not always scientifically impeccable; still there are many which leave nothing to be desired, and some of these hold out the hope that the cure may be permanent in some cases. In other cases, as we have stated above, the differential count of the leucocytes has shown the presence of myelocytes, even when the number of leucocytes was normal. It seems doubtful whether such patients will permanently recover; at any rate, they certainly can not be regarded as well so long as the myelocytes are present. It is well to note, too, that patients apparently recovering may die very suddenly, and in some of them the internal organs have been found to show the lesions of leukemia distinctly marked. Capps and Smith[3] bring forward the fact that in no case has complete disappearance of the spleen tumor been noted as an argument against permanent cure. We would point out that in

1. THE JOURNAL A. M. A., March 26, 1904.
2. Münchener med. Woch., II, No. 18.
3. THE JOURNAL A. M. A., vol. xliii, No. 13.

chronic cases, and many of the recorded cases had lasted two years at least, there is a good deal of fibrous tissue formation in the spleen, and this could not be expected to disappear under the *x*-rays. We believe that the evidence up to the present indicates that a great deal is to be hoped for in the treatment of leukemia by the *x*-rays, so far as the palliation of the disease is concerned, and that there are reasonable grounds for the belief that such treatment may be actually curative in certain cases.

A PRELIMINARY FIFTH YEAR IN THE MEDICAL CURRICULUM.

In another column, Dr. John Rogers, the secretary of the Cornell University Medical School, suggests a plan for securing a better preparation of students for the practice of medicine, which is worthy of consideration. From the statement that there is necessity of providing more time for both pupil and teacher—of demanding a better preparation for medical work—there can be no dissent.

With the conditions existing in medicine at the present time, it is reasonable and necessary to demand a longer period of preparation than is afforded by an ordinary high-school course, plus four years in the medical college. Medicine has made more progress in the direction of scientific exactitude in the last quarter of a century than in all its previous history, and needs for its intelligent study and comprehension a broader and more thorough training in the principal facts and methods of the fundamental sciences than is afforded by the secondary schools.

We are in accord with Dr. Roger's suggestion that an added preparation should be made in the premedical branches, for it is in these that the deficiencies of our present-day students and of the profession are most obvious and of most serious import. As to the proposal, however, that the instruction in the subjects should be given in the medical school rather than in the college or university proper, there is room for difference of opinion. It would seem that in such a step the medical school would be usurping the function which belongs properly and logically to the institution for general learning. The premedical subjects enumerated by our correspondent come logically within the domain of the college proper, and, with the possible exception of bacteriology and physiology, there are few, even of the smaller colleges, which are not well prepared to teach them—better equipped, indeed, both in faculty and in teaching appliances than the majority of medical colleges.

Medicine is applied science, its study and practice consisting in the application to the investigation and treatment of disease of the principles, facts and methods of certain fundamental sciences—among them physics, chemistry and the several biologic branches. Preparation for medicine, as for any other profession, naturally divides itself into a general education, whose chief purpose is the training of the faculties and the mastering of the fundamental subjects, and technical instruction in the application of these fundamental sciences to the specific problems of medicine.

General education is the province of the institution devoted to that purpose—the secondary schools and the college or university. The medical school should devote itself exclusively to the technical instruction, the applied science, and this it can only do to best advantage when its students have already mastered, in a broad and comprehensive manner, the principles and methods of the sciences to be applied. The curriculum of our better colleges includes those sciences fundamental to medicine. Is it a serious hardship to demand of every student intending to take up medicine that he spend one or two years in such a college? Surely a year in such an institution would be more economical and advantageous than the proposed extra year in the medical school. Such colleges are numerous in all portions of the United States, and, in the matter of tuition and cost of living, much less expensive than the majority of medical colleges.

If one year of such college work be demanded for admission to every medical school, a larger proportion of those who enter the college intending to take only this one year, will be inspired, and will find it possible to take one or two additional years—in many cases to secure the bachelor's degree and to pursue other studies which are nearly as essential to the adequate education of the successful physician as are the premedical branches above enumerated. Many medical students of the present time are unable to speak and write the English language as correctly as is befitting to the members of a learned profession; a majority have not had the training in mathematics which is essential to the thorough and intelligent comprehension of modern physics and chemistry; and a reading knowledge of German and of French is acknowledged to be of great advantage to the physician who is ambitious to be at the front. Our correspondent would hardly consider these subjects as coming within the province of the medical school, yet they are as important as some of the premedical sciences he mentions. It would be of far greater advantage, for example, for the student designing to enter the Cornell University Medical School to spend the suggested premedical year in the University at Ithaca, than in the medical department in New York City.

The time has arrived when every medical college should demand at least one year of college work, in specified, essential branches, as a prerequisite for admission. It will, however, defeat the very purpose which is sought to be accomplished, if, encroaching on the domain of the institution for general learning, the medical college attempts to give instruction in subjects entirely without its province and which it is wholly unfitted to undertake.

There is a fifth year, quite within the legitimate and logical sphere of the medical college, which, when the time is ripe, may with great advantage be required, and that is a practical clinical year, to be added to the further end of the present curriculum, and to consist of a hospital internship. When the annual enrollment of medical students has been reduced to only such proportions as are actually needed to supply the demand; when the ratio of internes to patients in the larger hospitals has been doubled, as it must be to render adequate attention to their patients, and when the hospitals which are springing up so numerously in the smaller cities and towns throughout the country have created a greatly increased demand for internes, it will be easily possible to provide every medical student who has completed his fourth year in the medical college with a hospital service. Any technical difficulties—legal, educational or administrative—which may arise will find a ready solution. No such step should be undertaken, however, until an adequate premedical education, prescribed in the requirements for admission, has been fully and universally secured.

THE CYTOLOGIC EXAMINATION OF EXUDATES AND TRANSUDATES.

Although the methods introduced by Ehrlich as a result of his classical research on the blood were well known to the profession as early as 1880, it was not till sixteen years later that any serious attempt was made to apply these methods to exudates and transudates. As a matter of fact, the attention of the entire profession was not drawn to the subject until after the work of Widal and his associates in 1900. It will be remembered that it was Widal who gave the name "cytodiagnosis" to this method, although he did not, as many suppose, originate it. In a recent editorial[1] we called attention to the value of this procedure in diseases of the central nervous system, but its value in exudates and transudates in other situations, more especially in pleural effusions, was not discussed.

Within the last few weeks two important papers bearing on this subject have appeared; that of Lewkowicz,[2] which deals with the subject in general, and that of Musgrave,[3] which deals with cytodiagnosis in pleural effusions. As Lewkowicz points out, cytodiagnosis has gone through the same phases as did its ancestor the differential blood count. In the earlier days of blood work it was thought that each disease had its own specific blood picture, a conception which was soon shown to be false; the earlier observers in cytodiagnosis also seemed to think that they had at last found the specific diagnosticum, but time has shown that their views were based on insufficient experience, and we are now in a position to take a more rational view of the matter. As far as technic is concerned, we need add nothing to the description given in a previous editorial, except to insist once more on uniformity in technic, without which it is useless to compare the work of the different observers.

In their discussion of the pictures observed in the smears, both Lewkowicz and Musgrave follow the classification first definitely proposed by Widal, i. e., they classify the cellular formulæ according to the predominating type of cell. Thus if lymphocytes predominate in a given exudate, this comes under the head of exudates having a lymphocytic formula. In the same way we recognize the polynuclear formula, the mononuclear formula, the endothelial formula, and the erythrocytic formula. It is, of course, apparent that in many cases several varieties of cells are present, but it is the predominant cell which classifies the picture.

The class of effusions to which this form of diagnosis seems especially applicable are those occurring in the pleural cavity. In serous pleurisy particularly there would seem to be room for some method which will tell us within a short time, and with reasonable certainty, the etiology of the affection. While it is true that the probable tubercular nature of such effusions has been preached in certain quarters for some time, the proof that such is the case often depends on such slow processes as animal inoculation, or is lacking until after the death of the patient, when it is of no value. It has been shown, too, that animal inoculation frequently fails when subsequent events show without doubt the tuberculous nature of the process. It is also true that a certain percentage of serous effusions are not tubercular, and it is in just such cases that cultures may be negative. The old observations of Widal and Ravaut led these observers to conclude that a lymphocytic formula meant tuberculosis, a polynuclear formula infection with some of the ordinary pus formers, and an endothelial formula either some mechanical injury or a transudate. They modified their statement regarding pleural tuberculosis somewhat by dividing the cases into primary tuberculous pleurisy, and pleurisy secondary to tuberculous lesions in the lung. In the latter class of cases they showed that the lymphocytic formula was replaced by a polynuclear one, in which the individual cells showed very marked necrotic changes. Naunyn, who confirmed these observations in the main, showed that a lymphocytic formula might occur in transudates of long standing, near the end of pyococcal pleurisies, or in pyococcal pleurisies where the infection had been mild from the beginning. It is obvious that in the case of long-standing transudates the specific gravity and percentage of albumin would serve as a differential point, while in the case of infectious pleurisies with an atypical cyto-count, the history should put one on the right track. Musgrave's work confirms conclusively the original observations of Widal and Ravaut. In twenty-three cases definitely proved to be primary tuberculous pleurisy, the lymphocytic formula was present in twenty-two, and in the twenty-third a polynuclear

1. THE JOURNAL A. M. A., Oct. 1, 1904.
2. Wiener klin. Woch., xvii, No. 37. THE JOURNAL, page 1270.
3. Boston Med. and Surg. Jour., vol. cli, Nos. 12, 13 and 14.

formula with great cell necrosis suggested that the case was really one of secondary tuberculous pleurisy. Lewkowicz also concludes from the examination of a large number of pleural exudates that the lymphocytic formula, almost without exception, means tuberculosis. Musgrave was also able to confirm the observation that the polynuclear formula means pyococcal infection; he shows, too, that in pneumococcus infections there are generally present very large phagocytic cells; that their presence in large numbers indicates a favorable outcome, and that their absence, especially if large numbers of bacteria are present, means a subsequent empyema. The significance of the endothelial formula is somewhat changed by the work of Musgrave and Lewkowicz; while they support Widal's original statement that this formula is present in transudates and mechanical lesions, they both find that it is also present in malignant growths involving the pleura. Musgrave states that in these cases lymphocytes are also present as a rule, while Lewkowicz mentions the occasional presence of polynuclears, which he thinks indicate a secondary infection of the growth.

As far as pleural effusions are concerned, then, we think it can safely be said that this method seems to be well worthy of a more extended use. It may be of distinct value in confirming or refuting the diagnosis in some cases, while in others it may have prognostic value. In general terms it may be stated that the endothelial formula means mechanical irritation, transudation from heart or kidney disease or new growth, the polynuclear formula indicates pyococcal infection, and the lymphocytic formula infection with an organism leading to a chronic serous inflammation, such as the tubercle bacillus. Those who have had the most experience with the test are the last to claim absolute specificity for it. It must never be forgotten that medicine is, after all, as Oliver Wendell Holmes once remarked, mainly a question of probabilities. Nor must it be forgotten that all such laboratory procedures are merely aids to diagnosis, and must be used to support close clinical observation and not to supplant it.

HYPNOTISM AND INEBRIETY.

Hypnotism has had its enthusiastic advocates for the treatment of almost every ill to which mortal flesh is heir, including even the mental and moral deficiencies. Its recommendation, therefore, for the cure of alcoholism is a perfectly natural one. We can not, however, support the belief apparently held by certain physicians that it alone, applied as a purely therapeutic measure, will be found to meet the claims of its advocates. There may be cases of periodical drinking, due to organic physical defects, often hereditary, in which hypnotic suggestion properly applied at just the right time might, like any other therapeutic measure, ward off or mitigate the attack. In such cases we have a physical disease, not an acquired vice, and the will power is ordinarily not necessarily defective during the interval.

Such cases are not hopeful ones, however, when well pronounced, under any merely medical treatment, hypnotic or otherwise. The most rational and effective method with them would be isolation and compulsory deprivation of alcohol from the first symptoms of the attack, together with such medical treatment as might be needed for supporting and toning up the system through the crisis. The great majority of inebriates have an acquired craving with weakened will power to resist it, and in most cases hypnotism or even suggestion in its wider sense, is insufficient to effect a cure, excepting under the most favorable circumstances. Only the very strongest moral stimulus, changing the whole moral nature and impulses, is effective. There are, however, many cases cured in this way. Every great temperance revival has been followed by such, but this is not hypnotism in any ordinary acceptation of the term. The alleged successes of the so-called alcohol cures are based on the honest desire of the individual to be cured of this habit, and not on the drugs, injections and other accessories of the treatment. Suggestion, of course, plays a large part in any treatment, but to be a success it must be permanent and constant, auto-suggestion reinforcing the patient's will and honest desire. The patient who puts faith in hypnotism alone and does not follow it up by earnest effort is not a hopeful case, and will sooner or later give way to the temptations that surround him.

While there are many cases that reform by auto-suggestion—started, it may be, by a hypnotic treatment, but far more frequently by some moral movement, temperance revival, etc.—in many cases, and probably in the majority, pronounced inebriates require other therapeutic measures to support the organism in throwing off the physical craving and relieving the disturbance caused by the removal of the customary stimulant. Hence the value of really scientific institutions for the treatment of these subjects where a certain amount of compulsion and removal from temptation can be provided for.

A CHINESE EDDYITE.

It is said the empress of China, once the *bête noire* of all foreigners in "The Long-Lived Empire," has succumbed to the combined influence of the wife of the American minister and of Eddyism. The former modestly refrains from any positive statement as to her conversion of the empress to the new cult, and at present the matter rests on the presumption that the liberalizing of the royal old lady's views has been accomplished by the personal efforts of the ambassador's wife. Should history record that the "yellow peril" had been diverted from "ways that are dark" to the relatively calm pursuits of occidental industrialism by the intervention of one of the morbid religious obsessions of our time, the psychologist will instantly be reminded of

the part played by the insane in ancient religions. In the light of such a possibility and in the hope of hastening the approach of the millenium, it would seem pertinent to suggest that John Alexander Dowie should at an early day be made minister to the Congo Free State. The resultant blessings would be somewhat evenly distributed between "Darkest Africa" and Zion City, Illinois.

TESTIMONY IN RAPE CASES.

In our medicolegal items this week there is quoted some new legislation in Virginia regarding testimonies in cases of rape, that seem meritorious. There is no doubt that the public examination in court of the victim in such cases is often an outrage on decency, and may inflict an injury that can never be atoned for, perhaps blighting a whole life and adding infinitely to the hardship already undergone. Under the new Virginia law this evil is largely, if not entirely, removed. There is another and a more medical aspect of the case that is worth noting; the possibility of hysterical accusations is well recognized, and the prospect of a public examination and public sympathy in such is liable to only aggravate the hysterical tendency, at least in many cases. It seems to us that the private examination, properly conducted, is far more likely to determine the actual mental state and reliability of the witness. It is within the power of the judge to have competent expert assistants in taking this testimony, and the presence and counsel of a skilled physician in such cases might be of the utmost value and would be very naturally suggested by the defense. Perhaps a specific provision for such aid might be an advantageous addition to the law.

ENDOCARDITIS AS A COMPLICATION OF MUMPS.

The belief may still prevail in some quarters that all children must at one time or another pass through the exanthematous diseases, and it may still be the practice in some families to expose all of the children to the risk of infection when any one suffers from one of those diseases, but it has been so frequently and so conclusively demonstrated that any infectious disease, no matter how apparently mild, may be attended with serious if not disastrous consequences that no intelligent physician will sustain such belief or sanction such practice. Of the exanthemata, as of other infectious diseases, it has been shown that endocarditis is by no means a rare complication. Among these, mumps or epidemic parotitis is considered so insignificant a disorder that often a physician is not called in attendance, and, as a matter of fact, the disease usually pursues its course without more serious complication than suppuration of the parotid gland. At times, however, orchitis or ovaritis or mastitis occurs in the course of the disease. Less commonly metastasis apparently takes place to other structures, such as the nervous system, the organs of special sense, the mucous membranes, the serous membranes. Endocarditis has been recorded as a rare complication, the number of cases reported being small and the references in current literature and text-books to this association being few. On this account the recital by Rudolf Taschner[1] of four cases in one family must be considered as extraordinary. The children were 11, 9, 7 and 5 years old, respectively, and each had an attack of mumps at a time when the disease was epidemic in the community. In all there developed symptoms of endocarditis, which it seemed reasonable to attribute to the attack of mumps, inasmuch as, among other things, the presence of any other infectious disease appeared to be excluded. This observation suggests that endocarditis may be a more frequent complication of mumps than has heretofore been suspected, and it should likewise carry with it the admonition that an attack of mumps ought not to be neglected, but, on the contrary, the possibility of the occurrence of endocarditis as a complication should not be ignored, and precautions be taken to lessen the likelihood of its development.

LOW RATES FOR THE PORTLAND SESSION.

We are glad to announce that very low rates have already been agreed on by the western railroads for the Portland session. The round trip rate will be $45 from all Missouri River points. The passenger associations that have thus far acted have agreed on a half rate from their eastern territory to Missouri River points. This will make the rate from Chicago, for instance, $56.50. From present indications, half rates will be given from all points South and East, with the possible exception of the New England Passenger Association territory. The time will be practically unlimited, terminating late in the fall. Thus those who desire can make the trip to Portland their summer vacation. Arrangements are being considered whereby a special train or trains will run a week before the session by way of Yellowstone Park, giving a chance to spend a week there on the way West. Similar arrangements can be made by individuals or parties for the return trip. Members will be able to go by one route and return by another. In future issues of THE JOURNAL we hope to be able to give a description of the various routes and their attractions.

FAMILIAL TABES DORSALIS.

There will probably be no dissent from the view that syphilis, if not the sole cause, is at least the most important etiologic factor in the development of tabes dorsalis. Further, while the definitive demonstration is as yet wanting, there is no reasonable doubt that syphilis is an infectious disease. Strictly speaking, syphilis can not be considered an hereditary disease, the transmission to the fetus in the uterus taking place, as a rule, by way of the maternal blood through the placenta. We have, under such circumstances, to deal rather with a difference in the medium than in the mode of transmission, and the acquisition of the disease on the part of the fetus is entirely comparable with that which takes place in postnatal existence. A number of diseases are known to exhibit at times a familiar distribution, and it is to be inferred that this fact is dependent on some inherent vice of development or is indi-

1. Wiener med. Woch., No. 31, 1904, p. 1453.

cative of a susceptibility to the specific exciting causes of the respective disorders in question. Cases are on record in which several members of the same family, although exposed to different conditions, have presented symptoms of tabes dorsalis. Dr. M. Nonne[1] has only recently reported the occurrence of tabes in a mother and two daughters, the latter on close scrutiny being found to exhibit stigmata of congenital syphilis. The cases, apart from occurring in women, were interesting further, because of the presence of optic atrophy, in conjunction with a slight degree of ataxia. A healthy child was born between two infected children. Nonne refers also to other cases in his experience illustrating a familial distribution, due possibly under varying circumstances to different causes. Thus a child, its mother and its father all developed tabes in the sequence of extragenital infection with syphilis. In another instance, a syphilitic husband, his wife and a child born five years after the infection of the father all became tabetic. It seems probable that in the cases cited and in others of similar character different factors may be operative in different cases. In some there may be a familial predisposition or susceptibility. In others, perhaps the syphilitic virus may have a specific activity with reference to the nervous system, especially the posterior roots and columns; while in still other cases other influences may be at play. Altogether the subject is one deserving of further investigation.

1. Berliner klin. Wochenschrift, Aug. 8, 1904, p. 845.

Medical News.

CONNECTICUT.

Thousands to City Hospital.—Miss Mary Terry, who died in Venice a month ago, left $300,000 to the City Hospital of Hartford, Conn.

Infectious Diseases.—The State Board of Health received reports during September of 2 cases of smallpox, 4 of measles, 44 of scarlet fever, 1 of cerebrospinal fever, 115 of diphtheria, 3 of whooping cough, 138 of typhoid fever and 16 of consumption.

School Inspection at Waterbury.—The Waterbury Board of Health has decided to appoint two medical inspectors, who shall inspect all schools in the city once every two weeks. Drs. Charles A. Monagan and William A. Goodrich have been appointed the medical inspectors.

September Deaths.—During September 1,167 deaths were reported, equivalent to an annual death rate of 14.3 per 1,000. Of these 158 were due to diarrhea in children under 5, 134 to diseases of the nervous system, 111 to heart diseases, 103 to consumption, 68 to violence and 31 to pneumonia.

ILLINOIS.

Recovering.—Dr. Ira Brown, Milford, who was seriously injured by falling from a bicycle, is making a satisfactory recovery.

Smallpox.—The inspector of the State Board of Health reports that he has found 7 cases of smallpox in a mining camp near O'Fallon.

Bequests to Peoria Hospitals.—By the will of the late Henry Schwabacher, Peoria, bequests of $200 each are made to the Cottage and St. Francis hospitals.

Diphtheria Epidemic.—It is reported that diphtheria is raging in Deerfield, that three deaths have occurred, and that the village school has been closed.——The disease has spread from East Peoria to Wesley City where six families are under rigid quarantine.

Chicago.

Praises Interne System.—At the annual banquet of the Cook County Hospital Alumni Association Dr. William E. Quine was toastmaster, and Dr. Frank Billings declared the interne system at the hospital to be the best in the world.

A Healthy Year Thus Far.—The Health Department Bulletin states that at the close of October there had been 22,058 deaths from all causes since the first of the year. This total is 1,817 fewer than for the corresponding period of 1903. The rate for 1904 may be even lower than that of the year 1901, which now holds the record with a rate of 13.88 per 1,000 of population.

Charities.—The Schwabenverein at its annual meeting donated $150 each to the German Hospital, Alexian Brothers' Hospital, St. Elizabeth's Hospital, Michael Reese Hospital, South Chicago Hospital, St. Joseph's Hospital and St. Anne's Consumption Hospital, and $50 to St. Francis' Hospital, Park Ridge.——The will of Moses Bensinger devises $1,000 to Michael Reese Hospital and $500 to Alexian Brothers' Hospital.

A Low Death Rate.—The average annual October death rate from 1893 to 1903 was 14.24, the lowest 11.98 in 1898, and the highest 17.89 in 1893. For October, 1904, the rate was 11.58—3.3 per cent. lower than the record lowest, 18.6 per cent. less than the average for thirteen years, and more than 35 per cent. lower than the highest of that period. Diphtheria deaths were 38 less (exactly one-half), heart disease 20 less, nervous diseases 29 less, pneumonia 47 less, scarlet fever 8 less, suicide 11 less, and typhoid fever 12 less than in October, 1903.

Unripe Vaccine.—On account of the extraordinary demand for vaccine virus, which has caused some producers to place "unripe" lymph on the market, the health commissioner has tendered to all producers of vaccine the services and facilities of the laboratory of the Health Department, and of its expert clinicians, in the bacterial and clinical examinations of their vaccine products offered for sale and use in Chicago. All vaccine submitted for such examinations, and found to be pure—that is, free from disease-producing organisms, and potent—that is, producing not less than 90 per cent. of successful primary vaccinations—will be so certified by the department. Defects in either respect will be duly notified.

MARYLAND.

Granted New Trial.—Dr. Joseph Ohlendorf, adjudged guilty a few days ago at Upper Marlboro of manslaughter in committing criminal abortion, has been granted a new trial and released on bail for $7,000.

Personal.—Dr. B. Curtis Miller, surgeon in charge of the Western Maryland Hospital, Cumberland, has resigned and has been succeeded by Dr. Clinton Brotemarkle, formerly of Lonaconing.—— Dr. William J. G. Whiteford of Baltimore County is on a visit to St. Louis.

Seeks Restraining Order.—Dr. Basil B. Crawford of Montgomery County has filed a bill asking that a Mr. Dorsey be restrained from suing him for damages. A temporary injunction was granted. In November, 1903, Dorsey brought suit against Dr. Crawford, alleging malpractice in the treatment of a fracture of the leg, and last March the case was nolle prossed.

A Maryland Abortionist Gets No Pardon.—Mention has been made of a petition to the governor for the pardon of Dr. George C. Worthington, a convicted abortionist now serving a ten years' sentence in the Maryland penitentiary for manslaughter by criminal malpractice. On this petition were the names of state senators and representatives, a member or two of Congress, lawyers, merchants, clergymen, women and doctors. November 2, backing this appeal, a large delegation appeared before the governor at Annapolis. The spokesman, an ex-state senator, appeared in behalf of "the citizens of Baltimore and the state of Maryland." The object of the appeal, he said, had become a physical wreck since his incarceration; his financial condition was also a wreck; his wife and daughter were without means of support; a mother in her eighty-ninth year awaited him; the majesty of the law had been vindicated, and transgressors taught that they would be punished for their offenses; a multitude of people desired the pardon; the jury had unanimously signed a petition for his release; he would henceforth live beyond the confines of the state; while he may have done wrong, who shall cast the first stone? If the operation had been successful and shame had been saved the woman's family, nothing would have been said, etc. A state senator said that at least one-half of the members of the house of delegates and a majority of the members of the senate had signed the

petition. A *physician* is reported to have stated to the governor "that he had practiced medicine eighteen years and could readily understand how Dr. Worthington had fallen into an *indiscretion*, and while the law had been violated, it would be well to remember that by his acts he had saved many a young woman from going forth marked with disgrace and shame." Silence ensued, broken only by a sob from near the door. This evidence of grief was supposed to come from some of Dr. Worthington's friends. "Is there anything further to be said?" asked the governor. There was silence for a few seconds when, in a half-hesitating way, the slight figure of a woman approached the governor, who turned and looked inquiringly. A convulsion of grief shook her from head to foot. It was but for an instant. Then, throwing her head erect, with both hands outstretched, she cried: "I am the mother of the dead girl!" A storm of pent-up grief burst forth while the members of the delegation stood aghast. Controlling herself as best she could, the woman continued: "I object to this pardon. I am a Christian woman. I have lived eighteen years in my neighborhood and you may ask any of my neighbors concerning my respectability. I am not responsible for the death of my poor girl. I tried to rear her properly. She told me on her dying bed that Allgive was responsible for her condition and that Dr. George C. Worthington had performed the operation which later caused her death. I could tell you more that she said, but on account of this frightful crime I have keenly felt the disgrace which it has brought to me and my family, and on these grounds, lone mother that I am, I come here to protest in my humble way against granting a pardon to this man and to ask that he shall serve out his full time and receive full punishment for the crime he has committed." This unexpected appeal fell like a bolt out of the clear sky. Several minutes elapsed before the members of the delegation could collect themselves, and the governor showed plainly the effects of the incident. The governor was the first to speak, saying that the opinion was almost universal that the punishment meted out to the prisoner was not commensurate with the grave crime committed by him. He, therefore, declined to extend executive clemency. The members of the delegation then filed out in silence, while the woman took the governor's hand, exclaiming: "God bless you!"

Baltimore.

Hemmeter Given Desk.—At the close of his lecture on physiology at the University of Maryland, October 31, Prof. John C. Hemmeter was presented by the class of 1906 with a handsome polished oak lecture desk of massive design.

Adjunct Faculty Society.—The Adjunct Faculty of the University of Maryland School of Medicine has formed a society, whose purpose is to co-operate with the faculty in improving the service in the University hospital, in extending its advantages to visiting alumni and in creating a healthy esprit-de-corps among the members of the staff and those connected in one way or another with the institution.

Personal.—Dr. I. Mori of Japan is visiting Baltimore.——Dr. G. H. Foster, United States Marine-Hospital Service, hitherto attached to the immigration bureau here, has been ordered to Naples, Italy, to inspect emigrants from that port. His place will be filled by Dr. P. Clark, Philadelphia.——Dr. John C. Scofield was painfully injured by being thrown from his buggy, October 22.—Dr. Ella X. Quinn will spend the winter in Florida.

Favors Isolation Hospital.—Mayor Timanns has declared himself in favor of an infectious diseases hospital and so has the Board of Public Safety. Several years ago a site for one was purchased in the suburbs, but residents objected and the legislature was induced to prevent the scheme. The city declined then to take the site and a suit is now pending in consequence. An appropriation is available and it is believed that the matter will soon be taken up.

The Osler Memorial.—Although it is stated that the committee has not arrived at a definite decision, the Osler memorial building is being generally discussed by the profession here and the idea meets with universal approval. It has been suggested to purchase Dr. Osler's residence, No. 1 Franklin Street, West, and adapt it to the purpose. Dr. Osler's deep interest in and services to the medical library render it appropriate as the instrument for commemorating his life and work here. The matter has been taken up by the newspapers of Baltimore since its first mention in THE JOURNAL of October 29. Dr. Osler's many friends throughout this country and Canada will doubtless be most happy to contribute to making this project a success.

The Locke Bicentennial.—The two hundredth anniversary of the death of Dr. John Locke, the philosopher, was celebrated in McCoy Hall, Johns Hopkins University, November 1. The idea originated with Dr. Osler, who spoke of Locke as student of medicine, practitioner and medical philosopher. As a friend of Sydenham, he exerted an important influence on modern medical thought. His views were strongly modern. He was the first to treat echinococcus of the liver instrumentally, which he did by means of a silver drainage tube on his patron. Conway Lloyd Morgan, principal of University College, Bristol, Eng., spoke of Locke's philosophy and psychology, as did also Prof. F. J. E. Woodbridge of Columbia University. Prof. J. McBride Sterrett of George Washington University spoke on Locke's toleration.

MICHIGAN.

Personal.—Dr. DeWitt C. Wade, Holly, is very ill in a hospital at Flint, and only slight hopes for his recovery are entertained.

Comparative Mortality.—For October, 1904, compared with the average for October in the ten years, 1894-1903, smallpox, measles and puerperal fever were more than usually prevalent; and dysentery, intermittent fever, cholera morbus, cholera infantum, remittent fever, erysipelas, pneumonia, diphtheria and whooping cough were less than usually prevalent.

The Most Dangerous Communicable Diseases.—Meningitis was reported present during October at 5 places, whooping cough at 12 places, measles at 19 places, pneumonia at 29 places, diphtheria at 63 places, smallpox at 79 places, scarlet fever at 82 places, typhoid fever at 182 places and consumption at 303 places. Meningitis was reported present at 3 places less, whooping cough at 5 places less, measles at 9 places less, pneumonia at 4 places less, diphtheria at 5 places less, smallpox at 10 places more, scarlet fever at 9 places more, typhoid fever at 14 places less, and consumption at 1 place less, in October, 1904, than in the preceding month.

Opposes Indiscriminate Gratuitous Hospital Treatment.—The following resolutions were unanimously adopted at the meeting of the Wayne County Medical Society, October 31, and a committee of ten was appointed to confer with the Board of Regents, regarding the action therein referred to:

WHEREAS, The members of the medical profession, as citizens, are entitled to the same privileges which are enjoyed by other citizens; and

WHEREAS, The board of regents of the University of Michigan have ruled (*Michigan Alumnus*, October, 1904, pp. 2 and 3) that the medical faculty of the University of Michigan must grant gratuitous medical and surgical treatment to everybody applying therefor, whether rich or poor; and

WHEREAS, Such a condition is contrary to all customs and rules governing the relation of one citizen to another; and

WHEREAS, Such a ruling deprives the medical citizen within the radius of the influence of the University of Michigan of part of their rights in an unwarranted manner, and is harmful to the state as well as to the medical profession; therefore, be it

Resolved, By the Wayne County Medical Society, Michigan, that the board of regents of the University of Michigan be asked to rescind its ruling concerning the indiscriminate free medical and surgical treatment of those who apply for treatment at the University clinics, and

Resolved, That the board of regents of the University of Michigan be asked to give a hearing to representatives of the Wayne County Medical Society.

MINNESOTA.

Senior Student Dies.—C. B. Morey, Winona, a senior student of the medical department of the University of Minnesota, who went to New Orleans last month, intending to complete his course at Tulane University, and for the benefit of his health, was found dead in his bed, October 11, from nephritis and asthma, aged 24.

Old Physician Honored.—Dr. Edward J. Davis, Mankato, president of the Blue Earth County Medical Society, was tendered a banquet by his medical and lay friends, October 24, on the eve of his departure for a new field of labor at the Soldiers' Home. On behalf of his friends, Dr. John W. Andrews presented Dr. Davis with a silver loving-cup.

Large Damages Awarded.—In the case of Miss Anne Mohr, who charged that Dr. Cornelius Williams, St. Paul, operated on the wrong ear without her consent, and claimed that she was damaged to the extent of $20,000 by reason of the defendant's malpractice and negligence, the jury found the defendant guilty of technical assault, and assessed the damages at $14,322.50.

One Building Instead of Cottages.—The cottage plan proposed for the construction of the sanatorium for consumptives, to be erected on the site recently selected by the commission of physicians appointed by the governor, has been abandoned

as too expensive, and one large building will be erected instead. As originally proposed, the institution would have consisted of half a dozen cottages, located on a wooded site of 700 acres, recently purchased on the banks of Leech lake, near Walker. The present plans call for a building, three or four stories high, accommodating between 200 and 300 patients.

Personal.—Dr. Emil S. Geist, St. Paul, has returned after a stay of three years in Europe.——Dr. Edward A. Meyerding has been appointed first assistant city physician of St. Paul, vice Dr. Paul B. Cook, term expired, and Dr. Frank J. Savage has been made second assistant physician.——Dr. C. L. Francis, Mapleton, after half a century of practice, has retired, at the age of 83.——Dr. Donald A. Nicholson, physician at the St. Peter State Hospital for the Insane, has resigned and will locate in Spokane, Wash.——Dr. Lewis B. Wilson has resigned from the faculty of the University of Minnesota; Dr. Jacob E. Shadle, St. Paul, has been appointed professor of diseases of the nose and throat, vice Dr. Winfield S. Laton, Minneapolis, and Dr. James E. Moore has been made professor of surgery, succeeding the late Dr. James Henry Dunn.

MISSOURI.

Acquitted of Murder.—Dr. Warren Smith, Sikeston, accused of the murder of Harry Miller of Sikeston, was found not guilty, October 22.

Quiet for Patients.—The ordinance designed to repress hucksters while in the vicinity of hospitals and public schools was passed by both houses of the Kansas City Council, October 9. Hucksters are prohibited from shouting their wares within a block of these institutions.

Physicians to Have Right of Way.—The Kansas City Board of Health, on October 24, adopted the badge of the Red Cross to be worn by physicians and ambulance drivers as a passport entitling them to drive through funeral processions while using the thoroughfares in answer to calls for their services.

Pasteurizing Laboratory Closed.—The distribution of pasteurized milk by the Pure Milk Commission of St. Louis was discontinued November 1, because of a lack of financial support, and the pasteurizing laboratory closed. Since July 1 $4,000, which had been subscribed for the maintenance of the work, has been expended.

Declared Insane.—Dr. Norman Brokaw, St. Joseph, was adjudged insane and committed to State Hospital for the Insane No. 2, October 18.——Dr. Moritz F. Weyman, after scattering $2,000 in gold and silver in a wild ride through the streets of St. Joseph, was arrested, found insane and committed to the State Hospital for the Insane, October 24.

A novel combination of clinical demonstration and laboratory diagnosis occurred at the Kansas City Medical College, October 1, when Dr. Frank J. Hall, professor of pathology and laboratory diagnosis, presented a malarial patient, in the characteristic "chill", to the senior class during its regular laboratory period. He provided each of the 30 members of the class with a fresh blood smear and the *Plasmodium malariæ* was demonstrated by each member.

NEBRASKA.

Disease Closes School.—Bloomer school, Omaha, was ordered closed for a week, on October 23, on account of the prevalence of diphtheria.

Creighton Wins Prize.—The authorities of Creighton Medical College, Omaha, have been notified that a gold medal has been awarded the pathologic and histologic exhibit of the college at the Louisiana Purchase Exposition.

Smallpox at Monterey.—Monterey township is having an epidemic of smallpox. The health department physicians discovered 12 cases, mostly in an advanced stage. A farm hand from the southern part of the state is believed to have been the conveyor of infection.

NEW YORK.

Personal.—Dr. Henry E. Allison, medical superintendent of Mattewan State Hospital, is seriously ill and his recovery is despaired of.

Fined for Failure to Register.—Dr. Franklin Stuart Temple, Buffalo, formerly associated with "Antonius" the "healer," was fined $100 and costs in Buffalo, for violating the ordinance requiring physicians to register with the department of health.

Must Be Vaccinated.—Commissioner Lewis of the state health department has informed the village boards of health that the law imperatively requires all school children to be vaccinated before they can be permitted to attend the public schools and that there is "no quarantine" to be lifted in that regard.

Two Have Golden Jubilee.—The meeting of the Ontario County Medical Society at Canandaigua, October 11, was made a jubilee meeting at which was celebrated the fiftieth anniversary of membership of Drs. John Richmond Pratt, Manchester and W. Scott Hicks, Bristol. Dr. William W. Keen, Philadelphia, made a reminiscent address, Dr. Roswell Park, Buffalo, spoke, and presentations were made to the two venerable guests of honor.

The Lunacy Commission's Work.—The chief objects of progress accomplished by the lunacy commission in the last three years are as follows:

1. The reorganization of the Pathological Institute.
2. Provisions for the addition of 5,147 beds to the capacity of the present hospitals.
3. The segregation of the tuberculous insane, at first in solariums and tents at the various hospitals, and later by the construction of three tuberculosis hospitals for 100 each.
4. The securing of an appropriation for the construction of 10 isolation pavilions for infectious diseases.
5. The passage of a law providing for emergency committment of serious cases of insanity.
6. Large additions to the means of treatment in asylums in the way of surgical operating rooms, hydrotherapeutic apparatus and numerous electrical medical and surgical appliances.
7. The introduction of a system of careful registration of each patient restrained or isolated, which has resulted in a large diminution in restraint of patients by mechanical means, etc., and in the reduction of the number kept in solitary seclusion.
8. Throwing open the 14 state hospitals to 30 clinical assistants, who have the same opportunities for study, and for giving the same benefits to these institutions, as the similar arrangement for medical internes in the general hospitals.
9. A marked increase in the number of alien insane deported and improving facilities for discovering and deporting them.
10. The adoption of a more satisfactory dietary and larger ration than that allowed under the Atwater system.
11. The appointment of a medical inspector for the more continuous supervision of the 33 private asylums of the state in which about 1,000 patients are cared for.
12. Numerous systematic improvements demanded in such private retreats as did not approach the standard of care set by a general letter sent out by the commission to the private asylums in January, 1902.
13. The development of a definite policy in the matter of provision of care of the insane by the state, which should be applicable, not only now, but for future years.
14. The appointment of boards of consulting specialists at a number of state hospitals located sufficiently near to cities resulting to grant benefits to the institutions concerned.
15. The establishment of a summer colony at the lake shore for convalescent and curable patients in connection with the Rochester State Hospital.
16. The establishment now assured by the legislative authorities for a colony for the insane in the Champlain regions on the same principles as the Craig Colony for Epileptics and of a psychopathic hospital in the city of New York.

Buffalo.

Personal.—Dr. Emil S. Tobie has returned from Europe.

Sewage Threatens Health.—The sewage from a territory having a population of 40,000 now drains into the Ohio basin, which has a very restricted outlet. This results in stagnant sewage, which is a menace to health. At present there are many cases of typhoid fever in the wards of the city adjoining this basin, and the health commissioner believes the discharge of the sewage into this basin should be stopped.

Mercy Hospital's Attending Staff.—The board of managers of the new Mercy Hospital has appointed the following physicians as the attending staff: Medical Department—Drs. James W. Nash, James E. Culbert and A. L. Benedict; alternates, Drs. Ira F. Trevett, James J. Brown and Robert E. De Ceu. Surgical Department—Drs. Edward M. Dooley, Vertner Kenerson and William J. O'Donnell; alternates, Drs. Frederick M. Boyle, Bernard H. Brady and Daniel Murphy. Department of Gynecology—Dr. Stephen G. Howell; alternates, Drs. Cornelius J. Carr and Michael A. Sullivan. Department of Electrotherapeutics—Drs. John H. Daniels and P. H. Honrigan. Special Diagnosis—Dr. Thomas B. Carpenter. Laryngologist—Dr. W. Scott Renner. Department of Ophthalmology—Dr. Robert K. Grove. Genitourinary surgeon—Dr. J. Henry Dowd. Department of Neurology—Dr. William C. Krauss. Department of Dermatology—Dr. Alfred E. Diehl.

New York City.

Diphtheria at the Navy Yard.—Diphtheria has broken out in the marine barracks at the Brooklyn Navy Yard. The cases are mostly mild in form.

Semon in New York.—Sir Felix Semon was the guest of the section on laryngology and rhinology at the Academy of Medicine on November 2, where he read a paper. A dinner was afterward tendered him.

Hospital Room at Brooklyn Bridge.—Commissioner McAdoo has ordered a hospital room erected on the platform of the Brooklyn bridge so that immediate care may be given in case of accident. A trained nurse will be constantly in attendance.

To Aid Doctors' Widows and Orphans.—The New York Society for the Relief of Widows and Orphans of Medical Men has just issued its sixty-third annual statement, which shows the total assets to be $265,376 and the amount disbursed during the past year, $22,495. The members now number 133, of whom 110 are life and 23 annual members.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending October 29, 299 cases of diphtheria, with 17 deaths; 358 cases of tuberculosis, with 133 deaths; 165 cases of scarlet fever, with 8 deaths; 114 cases of typhoid fever, with 16 deaths; 55 cases of measles, with 7 deaths; 77 cases of chicken-pox, and 10 deaths from cerebrospinal meningitis.

Columbia Anniversary.—Columbia University's celebration of its one hundred and fiftieth anniversary, October 31, was marked by the conferring of the following degrees to those well known in medical work: The degree of Doctor of Laws was conferred on Prof. Edward Gamaliel Janeway, Prof. Francis Delafield, Dean William Mecklenburg Polk, Prof. John Green Curtis, Prof. William Henry Welsh, Dr. Andrew James McCosh and Prof. Walter Belnap James. The degree of Doctor of Science was conferred on Prof. William Stewart Halsted, Prof. Moses Allen Starr, Prof. Luther Emmett Holt, Prof. George Sumner Huntington, and Dr. Ernest Joseph Lederle.

Sprinkling versus Flushing.—The merchants' association recently made a formal protest to Commissioner Woodbury, complaining that as the pavements instead of being washed were covered with thin mud with consequent danger to persons and horses, the method of cleansing the streets should be changed. Commissioner Woodbury in his response said that such conditions were due to sprinkling by private corporations and not to flushing as performed by the street cleaning department. The method used by the department was that of delivering at an angle of 48 degrees with the muzzle velocity of 40 pounds' pressure to the square inch, a volume of water from hose which thoroughly cleansed the pavements and did not make it slippery. Commissioner Woodbury called attention to the low death rate in the properly washed and cleansed districts as compared with other localities. He said that agar plates exposed after sprinkling and after flushing showed 460 colonies to the former with only 10 colonies to the latter. He thought all efforts should be directed to securing the passage of a bill which would make it impossible for a private corporation to get a contract for street sprinkling next spring. All street cleaning should be entirely in the hands of the department and the work would then be performed in a more satisfactory manner than was now possible.

OHIO.

New Hospital Appointments.—Drs. Derrick T. Vail and Louis Stricker have been appointed opthalmologists to Presbyterian Hospital, Cincinnati, vice Dr. Christian R. Holmes, resigned.

Hospital Cornerstone Laid.—The cornerstone of the hospital at the Masonic Home, Springfield, was laid with impressive ceremonies, October 26. The hospital will be ready to receive patients in June.

Illegal Practitioner Fined.—C. J. Stevenson, an electrical and magnetic "healer" of Lisbon, was found guilty of violating the statutes governing the practice of medicine in Ohio, was fined $25 and promised to practice no more in the state.

Convalescent Hospital Burned.—Rainbow Cottage, the convalescent hospital for children at South Euclid, was destroyed by fire, October 31, fortunately without loss of life. The loss is $30,000, partially covered by an insurance of $16,000.

Mercy Hospital Dedicated.—On October 19, Mercy Hospital, Hamilton, was formally opened with impressive ceremonies. The principal address was given by Dr. E. Gustav Zinke, Cincinnati. At the banquet which followed Dr. Frank M. Barden, Hamilton, officiated as toastmaster.

Internes Leave Hospital.—The four internes who have completed their terms of service at the Cincinnati City Hospital, will assume practice as follows: Dr. Meile Flenner will open an office in Hamilton; Dr. F. W. Krueger, in Richmond, Ind.; Dr. H. E. Schilling at Troy, and Dr. Earl H. Bruns, having passed the examination for the Army Medical Department, will enter the Army and Navy Medical School, Washington.

PENNSYLVANIA.

An Award for Science.—By virtue of an agreement made before her death, the heart of Mrs. Mary O'Neill was awarded to Dr. Henry Martin Hall, Pittsburg, by a coroner's jury, October 8.

Free Antitoxin in Hazleton.—The Board of Health of Hazleton at its last meeting decided to furnish antitoxin free to families in the city too poor to pay for this agent.

Smallpox in Pottstown.—Smallpox continues unchecked in Pottstown and wholesale vaccination has been inaugurated. Dr. Elmer Porter, chief burgess, visited the infected portion of the town and, with his assistants, vaccinated over 200 in the community.

To Aid Pittsburg Consumptives.—Pittsburg will probably have a hospital for the treatment of its consumptives. William McConway has offered a desirable building for the establishment of a hospital of this character. The physicians of the city will use every endeavor to see the project succeed, as there is no such institution in that part of the state.

Injured and Ill.—Dr. Charles O. Johnston, Claysburg, while on a hunting trip lost his right hand at the wrist by an accidental discharge of his shotgun.——Dr. James A. C. Clarkson, Lewistown, while attempting to board a train at Petersburg, was thrown over the subway rail to the road, twenty feet below, alighting on his back and suffering a severe concussion of the spine.——Dr. Will L. Shindel, Sunbury, is reported to be dangerously ill in a hospital in Philadelphia.

Philadelphia.

Abortionist Convicted.—Mrs. Elizabeth Ashmead, Philadelphia, October 31, was found guilty of causing the death of Mary B. Sloan by a criminal operation.

Cancer Hospital Instituted.—On October 31 application was made to Court No. 1 for a charter for the American Oncologic Hospital "for the study and treatment of cancerous growths and other tumors."

Emigrants Barred by Trachoma.—Two hundred emigrants booked for this port from Liverpool were debarred from passage by the existence of trachoma. The disease was detected by the vigilance of the ship's surgeon, as the great majority had been passed by the doctor at Liverpool.

Residents Object to Hospital.—The private hospital for the treatment of consumptives, Gowen Avenue and Sprague Street, Germantown, has proven objectionable to the residents of that section of the city, and an effort is being made by them to have the institution removed, as they claim it is a menace to the community. They have entered an injunction branding it an institution of nuisance.

Health Report.—The total number of deaths for the week was only 386, a decrease of 21 from those of last week, and a decrease of 34 over the corresponding week of last year. Two hundred and seventeen cases of contagious disease, with 13 deaths, were reported, as compared with 244 cases and 28 deaths over the preceding seven days. The cases of contagious disease reported are as follows: Diphtheria, 89; scarlet fever, 73; typhoid fever, 53; smallpox, 2. Two schools were closed during the week from the existence of smallpox in the homes of attending pupils.

New Building for College of Physicians.—At the last meeting of the College of Physicians plans were submitted for a new building, to cost $240,000. The building will provide shelves for 30,000 volumes, a floor for museum exhibits, a large lecture and assembly room, with other rooms and modern conveniences. The college has at its disposal, including cash and real estate, about $370,000. The site for the new college purchased at Twenty-second and Ludlow streets for $80,000 has been condemned. A committee, therefore, has been selected to report on new sites at the next meeting. It is probable that the new building will be erected on the present site of the college at Thirteenth and Locust streets.

Work of Hospitals.—The Presbyterian Hospital admitted 207 patients in October and discharged 239; 2,204 patients were treated in the dispensaries.——The Methodist Hospital admitted 90 patients and administered 2,590 treatments in the dispensary.——The Woman's Hospital admitted 95 patients to the wards, and treated 1,462 in the different dispensaries.——Germantown Hospital admitted 97 patients, and 1,345 were treated in the various dispensaries.——Six thousand and ninety patients were treated in the Medico-Chirurgical Hospital.——The Episcopal Hospital admitted 218 patients, and 6,321 were treated in the different dispensaries.——St. Joseph's Hospital admitted 223 patients, and 2,114 visits were made

to the out-patient department.——St. Agnes' Hospital admitted 111 patients to the wards, and treated 3,428 in the dispensaries, making a total of 33,661 patients treated in the different hospitals reported in the month.——During the past year the Kensington Hospital has cared for 1,015 patients at a cost of $23,325.15. There were 641 operations performed.

GENERAL.

Manila Overcrowded with Physicians.—A physician who recently returned to this country from the Philippines says that there is little opportunity for successful practice in Manila, as the city is suffering from a superabundance of medical men.

Consumptives Barred from Government Positions.—The Civil Service Commission has decided that hereafter persons suffering from consumption will not be employed in the postoffice, or in any other government position from which they are likely to spread the disease. In future all applicants must submit to a physical examination, according to an order recently sent out.

Swindled by Forged Check.—A young man, aged about 28 years, blonde, 5 feet 6 inches in height, weighing about 135 pounds, of genteel dress and manner, representing himself to be a graduate of Starling Medical College, applied for admission in one of the medical schools in Washington, D. C., and presented a check supposedly issued by Dr. Starling Loving, on the Commercial National Bank, Columbus, Ohio, in favor of Dr. J. H. Loving, and requested that $60 of the proceeds of the check be applied to the tuition fee and $40 be handed him in cash. The dean of the school, being personally acquainted with Dr. Starling Loving and being of an unsuspecting mind, promptly complied with the request, with the subsequent result that the check was pronounced a forgery.

National First-Aid Society.—At a meeting of the Chicago First-Aid Society, held November 5, it was unanimously agreed that the foundation of a national first-aid society on the lines of the St. John's Ambulance Association of England and the Samantha Society of Germany was desirable, and it was resolved to incorporate an association to be called the American White Cross First-Aid Society, with the following objects: To educate the public in the principles and methods of first-aid emergency treatment of those injured by accident or suddenly stricken by illness; to install ambulances, stretchers and first-aid material at places which may be considered necessary; to organize volunteer ambulance brigades for service in peace and in war, and to contribute personal and material aid for the mitigation of national disasters. A committee was appointed, consisting of Drs. Nicholas Senn, Charles Adams and S. C. Stanton, and Messrs. E. Howe and Lewis A. Stebbins, to take immediate steps to arrange for the incorporation of the society and to nominate the administrative committee.

CANADA.

Registration of Births in Montreal.—Every physician is now compelled to register the births occurring in his practice within forty days. Of the 500 births registered in one month and a half, 435 were reported by physicians.

Toronto Senate Elections.—The following members of the medical faculty were elected to represent the graduates in medicine on the senate of the University of Toronto: Professors George A. Bingham, I. H. Cameron, Adam H. Wright and J. Algernon Temple.

Nova Scotia Society.—The annual meeting of the Nova Scotia Branch of the British Medical Association was held in Halifax, October 5. The election of officers resulted as follows: President, Dr. C. D. Murray; vice-president, Dr. W. H. Hattie; treasurer, Dr. G. M. Campbell; secretary, Dr. E. D. Farrell; council, Drs. Goodwin, Hattie, Hare, Mader, G. M. Campbell, Mathers and Ross.

Drug Inspector Wanted.—The College of Physicians and Surgeons of Quebec adopted a resolution calling attention to the abuses, the serious accidents and numerous losses of life resulting from the actual sale of prepared and patent medicines, and requesting the government for legislation to control their sale. The organization declares that the sale of any such preparations should not be tolerated unless each package or bottle bears the name of the preparation, the quantity of each dose, the maker's name, that of the seller, and the price.

Consumption of Spirits in Canada.—The consumption of spirits in Canada during the last fiscal year amounted to 5,343,954 gallons, or .958 gallons for each person of the total population. This is the largest consumption since 1885, when it reached 1.126 gallons a head. Last year the consumption of beer was 27,608,518 gallons; an average of 4.918 gallons a head. The use of beer has been steadily on the increase since 1869. The consumption of last year was the largest on record except for the year 1902, when it reached 5.102 gallons a head. The average since 1869 was 3.182 gallons. The consumption of wines remains about the same, .96 gallons a head. The average quantity of tobacco used a head per annum has been 2.178 pounds for thirty-five years. Last year it reached 2.765, the largest on record.

Montreal Marriage and Birth Rates.—According to the recent annual report of the medical health officer of Montreal, the mean birth rate for the past sixteen years in that city, without distinction as to nationality, was 39.10 per 1,000 of the population. The French-Canadian birth rate was 49.95 per 1,000; that of other Catholics, 25.95, and of Protestants, 24.96 per 1,000. For 1903 the total birth rate was 36.08 per 1,000; for French-Canadians, 43.64; other Catholics, 30.69, and Protestants, 20.52. The birth rate is the highest since 1896. The marriage rate for 1903 was 10.16 per 1,000, giving an increase of 1.18 over the mean rate for the last sixteen years, or an increase of .94 per 1,000 of the population over the rate for 1902, and 2.01 over that of 1901. The marriage rate among the French-Canadians was 10.75 per 1,000; other Catholics, 7.35; Protestants, 10.36 per 1,000.

A New General Hospital for Toronto.—The government of Ontario has proposed to make a grant of $100,000 to the Toronto General Hospital, at the solicitation of the University of Toronto, which institution desires to provide abundantly for the needs of its medical faculty. The estimated cost of the new hospital is about $750,000 and it is likely that the city of Toronto will contribute another $100,000, making four gifts of $100,000, real or proposed. Over 600 medical students attend Toronto University, and there is great lack of facilities for clinical instruction. Toronto now contributes to its hospitals on the per diem basis, paying out last year $55,066. This amount was distributed among the hospitals as follows: General, $11,723; St. Michael's, $10,316; Grace, $3,046; Western, $3,357; St. John's, $132; Convalescent Home, $611; Consumption Sanitarium, $2,476.

FOREIGN.

Wine Adulterer Fined.—A wine manufacturer of Carcassone, France, has been fined $19,500 for adulterating wines with an admixture of ingredients dangerous to health.

Prize Offered by Life Insurance Examiners.—The International Association of Medical Examiners has appropriated $150 to be awarded for the best work on the subject of albuminuria in candidates for life insurance and means for distinguishing between physiologic and pathologic albuminuria. Competing works may be in English, German, French or Dutch, and must be received at the office of the association in Brussels before May 1, 1906.

Verdict Against a General Practitioner.—A parturient succumbed to hemorrhage the morning after forceps delivery and the obstetrician's lack of skill was alleged to have been the cause of death. The obstetrician in question is a prominent general practitioner in a German city. Medical experts differed as to whether the postmortem findings implicated him or not. The physician was fined $125, with the alternative of 50 days' imprisonment, the verdict assuming manslaughter having been abandoned.

The Nobel Prizes.—Dr. Koch of Berlin is talked of for the Nobel prize in medical sciences this year. Dr. Koch's retirement from his Berlin position at the head of one of the great bacteriologic institutions is thought by some European editors to furnish the proper occasion for the recognition of his great services to science, as was mentioned in detail on page 823. The exact amount distributed in the Nobel prizes is the income from the total endowment, now representing a value of $8,400,000. The income is divided into five prizes after deducting expenses of administration.

Attempt to Poison a Town's Water Supply.—In order to test the engines and pumping plant of the new water-works at Kingsbridge, Devonshire, England, it was decided to fill one of the two large storage tanks, which have a capacity of 40,000 gallons each. Before filling the tank, however, the surveyor entered it to ascertain whether all was in order. He discovered the odor of carbolic acid, and found the floor of the tank covered with a sticky substance. Samples of the substance were sent to a public analyst and his report stated that the substance was the residuum of soluble carbolic acid.

Italian Medical Congresses.—Italy has been holding the national congresses for internal medicine, for surgery and pediatrics during the last month. The subjects discussed at the former were, "Fevers of Unknown Cause," "Physico-Chemistry in Connection with Diagnosis and Therapeutics," and "The Centers for the Pupil Reflexes." Risso and Cipollina related further favorable experiences with their serum for treatment of syphilides. Their record now is 12 cases, all cured, and a case of tertiary lesion on the nose, but they are waiting for more extensive experience before officially publishing their methods and results.

Salkowski's Sixtieth Birthday.—Prof. E. Salkowski's name is closely connected with the development of modern physiologic chemistry. Especially in regard to digestive and kidney affections and anomalies in metabolism, his researches and those of his pupils in the modest quarters allotted for his laboratory, have rendered incalculable services to medicine, and spread his fame far and wide. His sixtieth birthday was celebrated October 11, and some of our German exchanges issue special numbers in his honor, among them the *Berliner klinische Wochenschrift*. He is director of the chemical department of the Pathologic Institute, connected with the Charité Hospital at Berlin, associated with Virchow's name.

Judicial Verdict on Sanosin.—The remedy for consumption prepared and sold by Professor Sommerfeld of Berlin under the name of sanosin has been described in these columns. Dr. Sommerfeld declared that his experiences with the mixture have been very favorable. A Frankfurt daily warned its readers against the remedy, declaring that it was liable to injure sound lungs and to augment the process in affected lungs, while it was sold at a price altogether out of proportion to the cost of production. Sommerfeld instituted a suit for libel. Four medical experts testified that the remedy induced temporary improvement, like many other less expensive medicines, but that it was unable to cure diseases of the lungs. The defendant was acquitted, as no libelous intent was established.

Schweninger's Victory.—Bismarck's medical attendant was an irregular practitioner, Schweninger by name, and Bismarck's influence not only secured him an official chair in the Berlin medical faculty, but enables him to this day to have every wish gratified. He was appointed a few years ago to the directorship of a large and important hospital, but this institution was omitted from the list of those where the medical graduates were to receive their final, practical training as "praktikants." Schweninger protested against this slight, and the authorities have now added his hospital to the list. Our German exchanges regard this Schweninger matter as a national disgrace. At the recent International Congress of Dermatology a formal protest was made against his teaching that mercury is useless and harmful in syphilis. He treats that disease with hydrotherapy alone.

Health Exhibition in Bombay.—In connection with the industrial and agricultural exhibition of the Twentieth Indian National Congress, to be held in December, it has been resolved to have a health exhibition, under the auspices of the Bombay Sanitary Association. The section on hygiene will include the following: 1, water supplies and filtration; 2, drainage and the modern systems of sewage disposal; 3, infectious diseases and their prevention and disinfection; 4, ventilation of buildings and factories; 5, modern sanitary appliances; 6, food and milk, their values and preservation; 7, conservancy and refuse disposal; 8, model dwellings; 9, literature relating to sanitation. This should be an interesting exhibition and help forward sanitation throughout the Indian Empire. It is also proposed to have lectures on subjects pertaining to tropical hygiene and sanitation, the lectures to be illustrated by microscopic and stereopticon demonstrations.

The Persian Imperial Sanitary Board.—By order of the shah, a sanitary board of the Persian Empire was formed, under date of August, 1904, with the view of carrying out the measures prescribed by the sanitary conference of Paris (1903). The board is composed of the minister of police; representatives of the foreign, home, customs, postal and public instruction offices; of the chief of the municipality of Teheran; of the European physicians of the imperial court; of the medical attachés of the Russian, British, French and German legations and the Turkish embassy (there are no medical attachés to the United States, Italian, Austrian, Belgian and Dutch legations); and of such Persian physicians as the board may see fit to nominate. The presidency has been trusted to Dr. Schneider, surgeon colonel of the French army and particular physician to the shah. The council is to hold ordinary meetings once a month and special meetings whenever necessary. The first meeting has already been held, and a committee on hygiene has been appointed with the duty of inspecting and reporting on the cemeteries and slaughter houses of Teheran.

Indian Sanitary Commission.—The offices of sanitary commissioner of the government of India and director-general of the Indian medical service have been separated, as was the case prior to 1880. Major Leslie, I.M.S., has been appointed sanitary commissioner. He will organize and direct research throughout India, which will steadily increase with the progress of the scheme already sanctioned for the establishment of fully-equipped institutes for the study of health problems in India, including a central laboratory devoted mainly to general original research and the making of antivenene and curative serums. In each of the larger provinces there will also be local laboratories for bacteriologic diagnosis and research. The new officer will control all these investigations and decide what work shall be done and by whom it shall be undertaken. The salary of the new appointment will be from $640 to $800 a month. The office will usually be held by an officer of the Indian Medical Service specially selected without reference to strict seniority, and the appointment will be for five years, which may be extended, and he will be independent of the director-general. Other officers for this department will be appointed from the Indian Medical Service.

DUBLIN LETTER.

Diarrhea in Children.

In the last monthly report of Sir Charles Cameron, the medical officer of health for Dublin, there is collected a quantity of valuable information on the occurrence of infantile diarrhea in this city. Although in comparison with other cities, both in England and America, the infant mortality of Dublin is very low, yet the subject is, in every center of population, one of primary importance. In East Ham, an eastern suburb of London, the rate of mortality from diarrhea reached this summer the astonishing figure of 16.5 per 1,000 living persons; in Hull it was 14.8; in Salford (which forms one city with Manchester), 12.3, while in Dublin the highest point reached was 5.5. Sir Charles Cameron discusses the subject entirely from the practical point of view without raising any question of the causative organism at work, and he fairly enough blames dirty and improper food as the main cause of the disease. He was able to obtain particulars as to the feeding of a number of those who died during the month of August, and, as might be expected, the disease was specially incident in the bottle-fed. In Dublin nursing at the breast is almost universal, but nevertheless, of 74 infants under one year of age who died of diarrhea, only 11 were breast-fed. Of those who suffered in their second year nearly all were affected within a very short time of the substitution of artificial for natural feeding. Though in most cases the milk used for children's food was not in itself of bad quality, yet it was often kept over night in insanitary surroundings before use, and the feeding bottle was never properly cleansed. Sir Charles Cameron notes among the "extras" supplied to young infants as food such various items of diet as cabbage, cake, potatoes, sweets, rusks and bread and butter, while he finds that it is not unusual to administer porter as a sedative to a fretful child. As in most cases this improper feeding is the result rather of ignorance than of blameworthy carelessness, he thinks that much good can be done in the way of prevention by tactful teaching of the poor. It is proposed to send female instructors round the poor quarters to offer simple advice to the wives of workingmen on the feeding of infants. More useful, probably, though with not so rapid a result, would be the instruction of the girls in the national schools in the elements of hygiene and the care of children.

Insanity in Ireland.

The publication recently of the Annual Report of the Inspectors of Lunacy, although nearly two years late, has attracted more attention than is usually devoted to an official document. Although insanity in Ireland is increasing at an extremely rapid rate and is sufficient to cause grave anxiety, yet the situation can not be said to be new, nor does the present report differ in any marked feature from its predecessors. The inspectors year after year show the greatest anxiety to maintain the belief that the increase in lunacy is only apparent, and that the increase of admissions to the asylums only represents an insane population which formerly remained outside asylum walls. Fifty years ago there was calculated to be one insane person in every 600 of the Irish population, whereas to-day there is one in every 170. This change is far too great

to be explained by any doctrine of a large but hypothetical uncertified insane population. It is to be noted, too, that the number of admissions to asylums increases year by year even within the past five or ten years, during which time there can have been but little change in the feelings of the people toward asylum treatment. It is curious that the rate of insanity is much lower in England (1 in 288) than in this country, since most of the causes which are commonly assigned are more active there than here. Syphilis, common in a town community, such as the English population mostly is, is practically unknown outside two or three cities in Ireland. Sexual excess is equally rare in the rural population from which the lunatics mostly spring, and, indeed, one popular writer incurred great odium some months ago by assigning sexual repression as the principal cause of disease of the mind in the rural parts of the country. Alcoholic habits, which are often supposed to be very marked in Ireland, are in reality much less than in England, if one may judge by the annual drink bill of the country. Roughly speaking, an inhabitant of Great Britain consumes the same quantity of spirits, twice the quantity of beer, and as much and a half wine, as the inhabitant of Ireland, yet lunacy does not increase in England at nearly so great a rate as in Ireland. Of the other causes assigned for insanity it is needless to speak. Tea drinking, which looms large in the minds of many, is not so much practiced in Ireland as in England, and the toxic qualities of tea have never been proven. Heredity explains nothing, merely putting the difficulty a generation back. With more reason one may blame emigration, since the continual stream of the young and hardy from our shores tends to leave behind a weak and decadent population. When one turns from the general question of insanity in Ireland to the administration of the present system of asylums, one is astonished at the variety that is disclosed as regards cost of maintenance. Curiously enough, the cost a head is highest in the largest asylum in the country, the Richmond asylum, where it reaches $210 a year, while it is lowest in the small asylum at Castlebar—$115. This is all the more remarkable as in the Richmond asylum it has been found possible to employ over 80 per cent. of the patients in industrial occupations.

Correspondence.

Pan-American Medical Congress.

CHICAGO, Nov. 7, 1904.

To the Editor:—I should like to supplement your official announcement of last week concerning the Pan-American Medical Congress by some information which will be of value more especially to men throughout the middle west. Unfortunately, the time is too short to permit of much preliminary preparation, either scientific or social, but for any one of the profession wishing to take advantage of the opportunity for a winter's outing nothing more favorable could be offered.

Assuming Chicago to be the starting point, one can reach New Orleans in a day's journey. There has recently been put into operation a line of freight and passenger steamers of first-class character, from New Orleans direct to Colon, taking about five days, sailing every Friday at 10 a. m. Allowing one week from Chicago to Colon, one week on the isthmus and one week for the return journey, the trip may be made a short one at an expense easily within $200. There is no doubt that the government of Panama with its appropriation of $25,000 will do very much to make the congress one of entertainment as well as of scientific interest, and the program as outlined (see last week's JOURNAL), shows how instructive will be the week spent there. If one wishes to spend a fourth week on the trip, the stay on the isthmus may be prolonged, or the return may be made via either Havana or Vera Cruz. Up to the present no active effort has been made to organize an excursion, but I feel sure that if such members as expect to go from New Orleans would work together, the railway and steamer companies would gladly offer inducements in the line of lower rates; but this is a matter demanding prompt attention.

Considering the inter-American character of the congress, the interest hitherto shown by our government in promoting it, the ambition of the Republic of Panama in becoming the host, and the real importance of showing the most cordial desire to participate in such a gathering, we of the profession in the United States should make a decided effort to send a delegation commensurate with our size and scientific reputation.

I have been asked to help in stimulating a general interest in this matter. To any who desire any further information I will send what I can from time to time, and if those who seriously wish to attend the congress will communicate with me I will do my best to arrange routes and rates so that all may go together. The last steamer available will leave New Orleans December 23.

ALBERT B. HALE.

103 State Street.

A Preliminary Fifth Year in the Medical Curriculum.

NEW YORK CITY, Oct. 28, 1904.

To the Editor:—There has of late been much agitation about the deficiencies in medical education and at the same time about the desirability of terminating the course at a comparatively early age. As some recently published statistics[1] show that there is no material difference in the schedules of 43 of our presumably best schools I ask permission, for purposes of giving details exactly, to cite without naming the institution, the difficulties and the possible solutions, which are before one of these colleges. The facts are applicable to all and should be of general interest.

In a course of four years, each of about 30 actual working weeks, containing six days with an outside limit of eight hours available for teaching there are 5,760 hours which can be devoted to lectures, clinics, laboratory exercises, recitation and small clinic classes for bedside and other practical work. The school used for illustration requires 4,145 hours, or about five and three-quarter hours a day, of attendance on exercises, each of at least one hour duration. The study or preparation required of the student is not considered in this. Five and three-quarter hours (in many schools, if their statistics are to be believed, it is much more) may not seem excessive to the uninitiated, but with all the study hours which they involve experience has shown that every year a certain number of men, especially in the advanced classes, break down physically and have to leave college before the spring examinations; in other words, it is certain that the limit of student endurance has been reached, if it already has not been much exceeded; and yet complaints are constantly appearing in the journals that this or that subject is entirely neglected; that, for example, no adequate attention is given to psychiatry or to the duties of life insurance examiners, or to those of public health officers. There is much justice in all this, but where does the poor student come in? In New York, and probably in every large center, all the "best" undergraduates very properly regard the medical course itself as a preliminary to the more thorough training for the needs of their professional career obtainable as interne in the service of a hospital. Such positions are granted here only on the results of a most severe competitive examination, both theoretical and practical. For each place there are always from 10 to 20 or even 30 candidates, and no better means could be devised for keeping up the standard of medical education. The object of every school should be to produce competent practitioners, and the hospitals want only the best of these. All the student's energies are directed toward success in these rather than in his college examinations. Probably none of the schools gives its students any option in lessening the required college work to provide more time for study for these competitions; the tendency is rather the other way, as the rivalry between the faculties causes a close watch to be kept on the results and more instruction is added wherever weak points are discovered.

Putting in a few more weeks each year would seem the cheapest way of providing more time, but practically it does not. The course lasts now from the last week in September until the second week in June, or nominally 38 weeks. Taking

1. N. Y. Med. Jour., July 23-30, 1904.

out the time for holidays in this period (the longest of which, by the way, are this year just 10 days at Christmas), and that devoted to examinations, the actual working weeks approach closely to 30. Hence, as this seemed short, the faculty offered, about two years ago, supplementary work for the remaining whole or part of the summer. But even when this opportunity was made practically free, none availed themselves of it, and the faculty feel that anything like the "quarterly" system by which the college may be kept in active operation throughout the year, is impossible, at least in New York. The general educational habits, if not the summer climate, prevent it.

But the necessity of providing more time for both pupil and teacher is becoming more apparent, and the problem narrows itself down to demanding better preparation for medical work, higher entrance requirements in other words, or another year for the medical curriculum. In the broadest sense the expense and time elements in these two propositions are practically the same for the student; as he must know more of everything, especially of natural science, he must take more time for it and pay for it. A year more than the average high school requirement is sufficient to acquire all the non-technical subjects in the medical curriculum and the others grouped under the heading of biology, which are urgently needed. The most economical method of attaining this will be pointed out.

The requirement of the A. B. degree preparatory to the medical course can be dismissed as unjust and impracticable if only because it is very costly. Those who are fortunate enough to obtain so good an education prove its worth by almost invariably surpassing all others in the hospital competitions. In addition to maturity, they possess as much social as intellectual and hereditary advantages, but they represent only 8 per cent. of all the medical students[1] of the country. Even if this number showed any prospect of increasing, the addition of another institution open only to such men would be a very expensive experiment and one of doubtful utility to the community. A great advance can, however, be made by dropping from the curriculum inorganic chemistry and physics. In the entering class in the college used for illustration last year, about 70 per cent. showed that more or less knowledge of these subjects had been obtained in preliminary education; this year the number rose to 80 per cent., but an examination equivalent to that held at the end of the first medical year, proved that only about 2 per cent. knew enough to be advanced to organic or physiologic chemistry. The primary schools are evidently not sufficiently equipped or advanced as yet to thrust even this work back on them, and with the growing importance of chemistry to medicine it is doubtful if they ever will be. In the statistics above referred to, this subject occupies an average of 375 hours, and general medicine only 544 hours. The manifest disproportion can only be remedied, not by abbreviating chemistry, but by transferring the inorganic part with physics into a preliminary fifth year. They can thus obtain adequate treatment, for, in spite of the suspicion with which they are regarded by the older practitioners, these subjects are those on which the whole future of medicine depends. With them should be grouped thorough courses in general biology, including zoology, embryology, bacteriology and comparative anatomy and physiology. There is enough matter to fill the year to overflowing, but not enough students. The expense to all concerned would be at present only less than that leading to the combined A. B. and M. D. degrees, or seven years' course, nevertheless there are all the indications that it soon must come, and it is time the way were being prepared.

The loss of students, which would inevitably result to the school inaugurating a compulsory five-year course in competition with the numerous excellent schools offering courses of four years, alone prevents the advance. The necessary instruction is really a minor item in the account, as the subjects of a fifth preliminary year (inorganic chemistry and physics, general biology, with zoology, bacteriology, embryology, comparative anatomy, both gross and histologic, and physiology) are to a greater or less extent taught at present, and a little elaboration and a few more hours for the teaching staff will suffice. The difficulty lies in forcing the students to expend the time and money.

With the certainty that inorganic chemistry and physics are occupying hours which should be filled by purely technical matter, it is legitimate to so arrange the curriculum that only the ablest and best prepared men can avoid dividing their first year into two. For all of these subjects, together with organic and physiologic chemistry, usually given in the second year, can, by proper arrangement, be placed in the first year, the first half of which can be given over to the primary work, and the second half to the more advanced division of the subject, and at the same time by grouping the other subjects into periods, the entire present field can be covered.

In the school used for illustration, there are a total of 954 hours of required work in the first year, and 1,164 in the second. The combination suggested would make only 1,158 hours in the first year, and is not excessive. Furthermore, the applicant for admission can be allowed to prolong the first year into two, and if he does, to have a wide choice of courses in other natural sciences. The relief to the present advanced years would be considerable in the consequent displacement backward to an earlier period of a fundamental subject like pathology, and at the same time better preparation would mean better appreciation.

With rigid examinations at the middle of the first year and failure to "pass" successfully its inorganic chemistry and physics meaning refusal to admit to organic and physiologic chemistry in the second half of the year, only the brightest men could escape a compulsory two years, which now is one. In the second half of the first year they would have to repeat the work they had failed to accomplish and to this could be added the biologic studies, which are so desirable. They could not begin organic and physiologic chemistry until the following year which, by a little adjustment, could be readily filled to overflowing with primary medical studies. They could not enter another school in the middle of the first year, and would realize their deficiencies and take the desired five years to complete their course. A payment of $25 for each subject about covers the cost of material, and would foster a preliminary training in at least chemistry and physics. A high school student could then continue his regular studies and take these subjects at the same time in the medical college. Or the usual yearly tuition, payable in a lump sum in advance, could be made to cover as many of the other natural sciences as the candidate, unsuccessful in the first half of the year, could take in the second half. As it is now in the school mentioned, between 30 per cent. and 35 per cent. of the first-year class are "dropped" each spring, and the arrangement proposed is more equitable to them than the present. It provides for every kind of preliminary education, for as a rule the state laws permit part of it to be made up during the first medical year, and college competition, in spite of protests to the contrary, countenances very generally the admission of such badly handicapped individuals. As the practice is bound to persist the five year course mitigates the evil as much as possible, and one or two natural science subjects are legitimate offerings as part of the premedical studies. Those who are capable of crowding all of their physics and chemistry into the present first medical year have the opportunity to do so and graduate in four years, with far more time for digesting the advanced part of the present curriculum than now. They could not have the advantage of the biologic subjects, but would obtain more of the technical work. The best fitted students, the 8 per cent. who have had academic college training with natural science accessories, can, with proper arrangement of the schedule, enter the present second year, and as by law they are so permitted in this state, obtain their A. B. and M. D. degrees at the end of seven years. This condensation of all subjects not strictly medical, into the first of the four years is difficult but feasible, and by virtually forcing a five-year course on all but the brightest and best prepared men, is the only economical way of an ad-

vancement which is becoming compulsory in all schools by the natural progress of events. The natural sciences, particularly inorganic chemistry and physics, are essentials in every good general education, and the threat of a five-year technical course would be a powerful factor in placing these troublesome subjects where they belong, namely, in the preparatory curriculum.

JOHN ROGERS,
Secretary of the Faculty of the Cornell University Medical College.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

PROCEEDINGS OF CONGRESS OF ARTS AND SCIENCE.

NEENAH, WIS., Oct. 9, 1904.

To the Editor:—How and where can I obtain a copy of the addresses delivered at the recent International Congress of Arts and Science at St. Louis? I noticed by your recent editorial that they were being printed, and the information asked would be very much appreciated. F. E. M.

ANSWER—The proceedings of the Congress of Arts and Science will be edited and published under the auspices of the Exposition Company. It is expected that the matter will occupy at least twenty volumes. We are informed that these will be divided so as to include departments, so that one may purchase copies covering the branches in which he may be interested. We are unable to secure any further details at present.

Marriages.

HARRY E. HUNT, M.D., to Miss Irma Mary Fischbein, both of St. Paul, Minn., October 25.

SUMNER A. FURNISS, M.D., Indianapolis, to Miss Lillian Morris of Louisville, October 26.

HENRY E. FARREL, M.D., St. Louis, to Miss Louise Scarrett of Cambridge, Mass., November 1.

WALTER S. HANLEY, M.D., to Miss Caroline E. Moorehead, both of Philadelphia, October 25.

JACOB FRANKLIN MEYERS, M.D., to Miss Mabel Edna Gauby, both of Lisbon, Iowa, October 26.

FRANCIS E. LAFORCE, M.D., Burlington, Iowa, to Miss Edith Ferguson of Chicago, November 1.

WILTON A. DAY, M.D., Deer Park, Wis., to Miss Cora L. Roberts of Eveleth, Minn., October 27.

JOHN G. SOUTH, M.D., Frankfort, Ky., to Miss Christine Bradley, at Louisville, November 2.

WILLIAM H. KNOTT, M.D., Hume, Mo., to Miss Katherine Rollins of Keokuk, Iowa, October 26.

ANDREW CALLAHAN, M.D., Philadelphia, Pa., to Miss Elizabeth Gibson of Wilkesbarre, Pa., October 5.

GEORGE TROTTER TYLER, M.D., Owensboro, Ky., to Miss Theresa Bullit Coles of Philadelphia, October 27.

Deaths.

Alfred S. Wolff, M.D. Academy of Medicine, Paris, France, 1841, a member of the American Medical Association and for twenty-five years the efficient inspector and quarantine officer of the Texas State Health Department at Brownsville, died at his home, October 30, aged 88. He was born at Lyons, France, the son of Dr. Simeon Wolff, a noted physician of Paris. After graduating in medicine he entered the French army as surgeon and served throughout the Algerian campaign of 1846, and for two years thereafter, receiving the Cross of the Legion of Honor for gallantry. He then went to Holland and took his second degree in medicine from the University of Leyden, thence going to London, where he qualified and engaged in private practice. In 1859 Dr. Wolff came to America and settled in New York state. At the outbreak of the Civil War he entered the United States volunteer service as surgeon of the Fifty-fifth New York Infantry, but on account of his experience and ability in hospital work, was transferred and assigned to duty first in Lincoln Hospital, Washington, and then at the Carver Hospital. At the close of the war he was appointed physician to Clinton Prison, New York, and remained there four years. In 1875 he removed to Texas and located in Brownsville. Two years later he was appointed state quarantine officer at that place, and held the position continuously until the time of his death. His service was especially efficient at the time of the yellow fever epidemic in 1882. Dr. Wolff was at one time president of the Northern New York Medical Association, was a member of the New York State Medical Society, the Vermont State Medical Association, the American Public Health Association, Medicolegal Society of New York, and Texas State Medical Association. In token of respect to the memory of its deceased officer, the State Health Department was ordered closed on October 31 until 2 p. m.

James Dritt Reilly, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, 1859, of Washington, D. C., surgeon of the One Hundred Twenty-seventh and One Hundred Seventy-ninth Pennsylvania Volunteer Infantry in the Civil War, died at the home of his son in College Park, Md., October 12, from paralysis, after an illness of one year.

Benjamin Franklin Hart, M.D. Ohio Medical College, Cincinnati, 1844; Bellevue Hospital Medical College, 1864, a former member of the American Medical Association, member of the Ohio State Medical Society and the Washington County Medical Society, died at his home in Marietta, Ohio, November 5, after an illness of two weeks from paralysis, aged 82.

Alfred H. Powell, M.D. Jefferson Medical College, Philadelphia, 1853, surgeon in the Confederate service during the Civil War; some-time professor of surgery in Washington University of Baltimore, and for many years resident physician of Capen Springs, died at his home in Baltimore, November 4, from heart disease, aged 73.

Walter Walton White, M.D. University of Maryland, Baltimore, 1870, physician to the jail and penitentiary; assistant surgeon to the Presbyterian Eye, Ear, Nose and Throat Hospital, etc., died at his home in Baltimore, November 2, from the effects of influenza, aged 61.

Andrew J. Dean, M.D. University of California Medical Department, San Francisco, 1881, a member of the Medical Society of the State of California, died at his home in Haywards, Cal., October 26, from rheumatism of the heart, after a short illness, aged 46.

Walter S. Carr, M.D. University of Vermont Medical Department, Burlington, 1884, member of the Massachusetts Medical Society and the North Berkshire Medical Association, died at his home in North Adams, Mass., from tuberculosis after a long illness, aged 43.

David G. Hetzell, M.D. Jefferson Medical College, Philadelphia, 1861, surgeon of the Thirty-fourth and Twenty-third New Jersey Volunteer Infantry throughout the Civil War, died from apoplexy at his home in West Philadelphia, October 25, aged 68.

William H. Philpot, M.D. Atlanta (Ga.) Medical College, 1856, of Talbolton, Ga., division surgeon in the Army of Northern Virginia during the Civil War, died at the home of his son in Columbia, S. C., October 22, after a protracted illness, aged 76.

O. S. Belden, M.D. Department of Medicine of the University of Pennsylvania, Philadelphia, Pa., 1858, surgeon of the Fifth New Jersey Volunteer Infantry in the Civil War, died at his home in Camden, N. J., October 26, aged 75.

John E. Jones, M.D. Medical College of Ohio, Cincinnati, 1853, surgeon of the Seventy-ninth Ohio Volunteer Infantry in the Civil War, died at his home in Cincinnati, October 31, after a long illness, from heart disease, aged 71.

Edwin E. Webster, M.D. St. Louis Medical College, 1856, honorary member of the state and local medical societies, one of the oldest practitioners of St. Louis, died at his home in that city, October 26, aged 82.

Howard Grant Baird, M.D. Jefferson Medical College, Philadelphia, 1893, a member of the Saline County (Kan.) Medical Society, died at his home in Falun, Kan., from Bright's disease, October 27, aged 38.

Frederick D. Curphey, M.D. College of Physicians and Surgeons of Kansas City, Kan., 1902, mayor of Thomas, O. T., died at his home in that city, October 28, after an illness of one week.

Ralph Bridge Linn, M.D. Medico-Chirurgical College of Philadelphia, 1899, formerly of Wilcox, Ariz., died recently at his home in Los Angeles, Cal., and was buried October 20, aged 27.

Alexander J. Smith, M.D. the College of Physicians and Surgeons, Baltimore, 1885, died suddenly from valvular heart disease at his hospital in Clarkston, Wash., October 24, aged 50.

Benjamin F. West, M.D. Rush Medical College, Chicago, 1881, formerly of Tecumseh, Neb., died at Lincoln, October 24, from paresis, after an illness of three years, aged 47.

J. Henri Kessler, M.D. Missouri, 1878, of Portland, Ore., died at St. Vincent's Hospital in that city, October 13, from prostatitis, after an illness of three weeks, aged 54.

George B. Ellis, M.D. Vanderbilt University Medical Department, Nashville, Tenn., 1883, died at his home in Ellis Mills, Tenn., October 29, from cancer of the liver.

Samuel Huston Lynde, M.D. University of Buffalo Medical Department, 1889, died at his home in Buffalo, October 25, from pneumonia, after a short illness, aged 35.

Florence A. Solomon-Pressler, M.D. College of Physicians and Surgeons, Boston, 1896, of Attleboro, Mass., died in Boston, October 27, after an illness of four years.

Charles H. Thomas, M.D. Bellevue Hospital Medical College, New York City, 1875, of New Orleans, died at Johns Hopkins Hospital, Baltimore, October 29, aged 55.

J. S. Jones, M.D., of New Martinsburg, Ohio, died suddenly at the home of his daughter in Washington Court House, Ohio, October 20, from heart disease, aged 77.

Joseph Butler Draper, M.D. Harvard University Medical School, Boston, 1888, died at his home in Westford, Mass., October 30, from typhoid fever, aged 42.

Truman E. Parkman, M.D. Albany (N. Y.) Medical College, 1886, died at his home in Rock City Falls, N. Y., after an illness of a year, October 24, aged 82.

Mary Frances Green, M.D. Ohio, 1871, died at her home in Fort Wayne, Ind., October 27, after an illness of fourteen weeks, aged 68.

Mordecai A. Posey, M.D. Jefferson Medical College, Philadelphia, 1882, died at his home in Chanceford, Pa., October 28, aged 58.

Franklin Brooks, M.D. Illinois, 1853, was suffocated by an escape of illuminating gas at his home in Chicago, November 2, aged 80.

Joseph Rich, M.D. Geneva, Switzerland, 1835, died at his home in Saginaw, Mich., October 23, from bronchitis, aged 100.

John D. Kergan, M.D. Royal College Surgeons, Dublin, Ireland, 1860, of Detroit, Mich., died in San Francisco, October 18.

Pleasant Fair Chapman, M.D. Arkansas, 1854, died at his home in Porterville, Cal., October 10, aged 73.

Helen Leeker Lynch, M.D. Illinois, 1890, died at her home in Highland Park, Ill., October 22.

Richard Alexander Smith, M.D., died at his home in Raleigh, N. C., October 12, aged 75.

J. M. Lester, M.D. Kentucky, 1893, died at his home in Otter Bend, Ky., October 14.

Book Notices.

THE EXAMINATION OF WATERS AND WATER SUPPLIES. By John C. Thresh, D.Sc. (Lond.), M.D. (Vic.), D.P.H. (Camb.), Honorary Diplomate in Public Health, Royal College of Physicians and Surgeons, Ireland. Cloth. Pp. 460. Price, $4.00. Philadelphia: P. Blakiston's Son & Co. 1904.

His long experience as health official has brought the author of this work into direct contact with many of the practical problems that depend for their solution on technical data. The present book is divided into three parts, dealing with: 1, The examination of the sources from which water is derived; 2, various methods of examining water and the interpretation of the results; 3, analytical processes and methods of examination. The book as a whole appears to reflect faithfully the present state of opinion in Great Britain on the subjects treated. The illustrations drawn from the writer's experience are often especially illuminating. It is perhaps unfortunate that, as regards both method and interpretation, so much divergence should exist between workers in this country and in Great Britain as is revealed in the treatise before us. Such statements as the following (p. 79) serve to show how wide the divergence really is: "The amount of nitrite in water is very rarely determined, as such a determination serves no useful purpose." On p. 137, in comparing the standards of "bacteriologic purity" proposed by Miquel and Macé, Dr. Thresh is evidently attacking a man of straw, for he fails to note the fact that the peculiarly long period of plate incubation adopted by Miquel is entirely different from that of practically every other investigator and forbids the use of his tables in such a comparison as here instituted. The somewhat faltering attitude shown in general by the author in dealing with bacteriologic questions is exemplified in the following extract: "My impression decidedly is that in water recently polluted by sewage, the *B. enteritidis sporogenes* and the *B. coli communis*, can always be detected in reasonable amounts of the water if the degree of pollution is so great as to be dangerous" (p. 165). The use of the expression "reasonable amounts" is not adapted to allay inquiry. We anticipate that most American workers who have to do with the bacteriology of water will be induced by the appearance of Dr. Thresh's book to express more openly the surprise they have long felt at the singular failure shown by their fellow-workers abroad to differentiate more thoroughly the various groups of gas-forming bacilli. Much of the perplexity and confusion displayed by Dr. Thresh in discussing the validity and nature of the "coli test" is due to this point.

THE PRINCIPLES OF HYGIENE. A Practical Manual for Students, Physicians and Health Officers. By D. H. Bergey, A.M., M.D., Assistant Professor of Bacteriology. Illustrated. Second Edition, Thoroughly Revised and Enlarged. Cloth. Pp. 536. Price, $3.00 net. Philadelphia, New York and London: W. B. Saunders & Co. 1904.

This second edition contains many important revisions and additions, showing the advances which have been made in the field of preventive medicine in the short space of four years. The most important changes are found in the chapter on "Immunity and Susceptibility." Ehrlich's theory is given in a much clearer and simpler form than in the first edition; the subject of precipitins and their relation to legal medicine is taken up; the latest work in the preparation of bactericidal sera, done by Marmorek, Morer, Aronson, etc., is given full consideration, and also the experiments of Wechsberg and of Besredka on immunization. There is a new section on the "Relation of Insects to the Spread of Disease," with methods for the extermination of insects, anti-mosquito campaigns, etc.; new sections on "Trypanosomiasis," "Uncinariasis," "Spotted Fever" and "Helminthiasis." Additions to the chapter on vaccination appear in the form of a much needed paragraph on the precautions to be used in its administration. The author's attitude toward the danger of tetanus infection through vaccination appears over-optimistic in view of MacFarland's researches. It is better to face facts courageously than to cover them up through fear of unduly alarming the public. A chapter which one would gladly see enlarged and amplified is the one on the important subject of the housing of the poor. So much valuable investigation of tenement life in large cities has been done in our own country, in New York, Boston and Chicago especially, that it seems a pity to draw only on the material furnished by foreign statistics.

THE NERVOUS AFFECTIONS OF THE HEART, Being the Morison Lectures Delivered Before the Royal College of Physicians of Edinburgh in 1902 and 1903. By George Alexander Gibson, M.D., D.Sc., F.R.C.P. Ed., F.R.S.E., Honorary Member of the Medico-chirurgical Society of Norwich. Cloth. Pp. 99. Edinburgh and London: Young J. Pentland. 1904.

Again medical literature is enriched by a contribution from the pen of the distinguished Gibson, who has succeeded to the reputation of his late famous teacher and predecessor, George Balfour. As stated on the title page, this book of 99 pages is a reproduction, with a few verbal alterations, of certain lectures which were originally published in the *Edinburgh Medical Journal*. They consist of six lectures, divided into two sections, the first three dealing with the clinical, pathologic and therapeutic aspects of the sensory disturbances, and the three comprising the second section being devoted to the rate, rhythm and force of the heart as displayed in its motor disturbances. The book is well worth the perusal of every practitioner of medicine and in particular such physicians as are interested in life insurance examinations. The physiology of the innervation of the heart and of its motor mechanism is

entered into clearly and with sufficient detail, yet without tediousness. Practical observations and conclusions are given and there are many valuable therapeutic suggestions. Of particular interest and value are the lectures dealing with the disorders in rate and rhythm. A knowledge of the facts contained in this book will be of material aid in the understanding of many cases of disordered cardiac function that would otherwise fail to be understood or corrected.

TEXT-BOOK OF NERVOUS DISEASES AND PSYCHIATRY, For the Use of Students and Practitioners of Medicine. By Charles L. Dana, A.M., M.D., Professor of Nervous Diseases and (ad interim) of Mental Diseases in Cornell University Medical College. Sixth Revised and Enlarged Edition. Illustrated by 244 Engravings and 3 Plates in Black and Colors. Cloth. Pp. 690. Price, $4.00. New York: Wm. Wood & Co. 1904.

In the sixth edition of Dana's work some of the remarks on therapeutics have been omitted and a description of mental disorders added. Cytodiagnosis is touched on as an important addition to neuralgic medicine since the last edition appeared, and a few new cuts have been added. In the section on mental diseases the author follows largely the modern ideas, especially those of Kraepelin, which at present dominate American psychiatry. In a new chapter on general psychology the elementary facts and definitions are briefly but clearly given. In treating of the special forms of mental disorders the author's statements are based largely on personal experience and this portion affords the advantages of a neurologist's point of view of mental diseases. There is necessarily brevity, but the treatment of the subject is as adequate as could be expected within the compass allowed. The relations between nervous and mental diseases are close and this section of the work forms a valuable supplement to the more strictly neurologic portion of the text. It will undoubtedly add to the well-deserved popularity of the work.

CLINICAL LECTURES ON MENTAL DISEASES. By T. S. Clouston, M.D., Edin. F.R.C.P.E., President of the Royal College of Physicians of Edinburgh. Sixth Edition. Cloth. Pp. 738. Price, $4.25. Philadelphia and New York: Lea Brothers & Co. 1904.

Notwithstanding its somewhat peculiar arrangement this treatise has deservedly taken high rank among works on mental disorders. This edition is considerably altered from the former ones, and the alteration is an improvement. Dr. Clouston is one of the best clinical observers among modern alienists and what he writes is always worthy of attention. He has added to this work notice of the more recent advances and while he does not follow the lines at present most generally popular in this country, his work will be found a valuable one to consult on diagnosis and treatment. If we were to offer a criticism it would be that the author does not lay sufficient stress on the matter of intoxication from the digestive tract as a factor in the causation and continuance of certain mental disorders. The therapeutic bearings of this subject are such that it can hardly be ignored. We do not say that Dr. Clouston ignores it, but he does not attribute to it apparently all the importance it deserves and this is perhaps more notable since certain other Scotch alienists have even included paresis as a result of intestinal autointoxication. The present edition is enlarged to some extent by the addition of pathologic descriptions and plates illustrating the more recent work in this line especially by British workers.

EPITOME OF NERVOUS AND MENTAL DISEASES. A Manual for Students and Physicians. By Joseph Darwin Nagel, M.D., Consulting Physician to the French Hospital, New York. With 46 Illustrations. Cloth. Pp. 276. Price, $1.00 net. Philadelphia and New York: Lea Brothers & Co. 1904.

This little work belongs to a class of books which are sometimes condemned as being too brief and superficial to be of real value. Although they have their limited use, the chief objection to them is that the use is not sufficiently limited. The present instance is perhaps as good as the average, but it ought not to be depended on as a sole guide—even for examinations—as we fear it will be by some.

VETERINARY STUDIES for Agricultural Students. By Dr. M. H. Reynolds, B.S.A., D.V., M.D., professor of Veterinary Medicine, University of Minnesota. Cloth. Pp. 246. Price, $2.00 net. St. Paul: Published by the Author. St. Anthony Park, Minn. 1903.

This book is intended chiefly as a text-book in agricultural colleges. The anatomy and physiology of the common domestic animals is described sufficiently as a foundation for the comprehension of disease. The various disorders and diseases are presented in a clear and concise manner.

BEAUTY THROUGH HYGIENE. Common Sense Ways to Health for Girls. By Emma E. Walker, M.D., Member of the New York Academy of Medicine. Illustrated. Cloth. Pp. 306. Price, $1.00 net. New York: A. S. Barnes & Co. 1904.

This is another book whose circulation will make for health. It is a guide for young women on every part of life and habits that has aught to do with health and beauty. We have read a good deal in it and find no advice that is not sound and to be commended.

Miscellany.

The Physician's Wife.—A French medical journal—the *Journal des Practiciens*—is gravely discussing the sort of wife a physician should marry, and another, the *Reveil Médical*, has been conducting a symposium on the question, whether a physician should marry at all. Baudouin, in his *Gazette Méd. de Paris*, comments that work in the medical profession is one thing and marriage is another, and they have nothing to do with each other. He adds, however, that he is awaiting with interest the article, yet to be written, on the husband of the medical woman.

Notes of a German School Inspector.—The newly founded monthly magazine for social medicine, *Monatsschrift für soziale Medizin*, contains in No. 4 an article from M. Cohn, giving the results of four years' experience as school inspector at Charlottenburg. Two schools with about nine hundred children each were in his care. He found curvature of the spine in 40 per cent. of the children in the upper grades, while it was noted in only 4 per cent. of those first entering school. He advocates closing a schoolroom at once when an epidemic of infectious disease is first noted. After the length of time required for the incubation of the disease and the disinfection of the room, it may be reopened. He urges more instruction in hygiene by the teacher in the lower grades and by a physician in the upper ones. Instruction should be given in cleaning, in bathing, in gymnastics and in skating. The attention of the children may be won by giving them objects to handle connected with the subjects. He recommends school sanatoria for the larger communities.

Medicine and the Literary Career.—Under this heading the *Semaine Médicale* for October 5 describes the career of one of the greatest and most popular of modern Russian novelists, A. P. Tchekhov, who recently succumbed to tuberculosis at the age of 44. He was a duly registered physician and during the epidemic of cholera in 1892 he left his literary work to help combat the disease. The editorial compares him to Rabelais, Schiller and our own Holmes, and comments on the aid that a medical training is able to give to a professional literary man. It teaches him to observe, to be able to grasp the salient points of an event and to comprehend the psychology of the individual, for the physician has to study the soul and the mind of the patient before him as well as his lungs and his heart. He must be a psychologist as well as a scientist, and Tchekhov himself attributed great importance to his medical studies as the foundation for his literary work. The writer of the editorial is apparently not acquainted with Weir Mitchell's brilliant works, and he has yet to make the acquaintance of Conan Doyle's Sherlock Holmes, but they are only additional proof of the truth of his contention that a medical training is a remarkable aid to a novelist. In a recent address Conan Doyle remarked that he believed the time would come when young men who were going to do anything in the world would be passed through medicine as they used to be passed mechanically through the bar. He knew of no other means by which a young man could get to the fundamental and absolute facts of life. The editorial referred to above concluded with the old saying: "Medicine leads to anything on condition that it is abandoned," but comments that this condition is by no means indispensable nowadays.

Notes on American Hospitals.—Campbell Douglas, L.R.C.P. Ed., writing in the *Glasgow Medical Journal*, says: "The spectator at an operation in an American hospital is struck by the attention to detail, or apparent attention, observed by the various actors in the drama, and by the general tendency toward an aseptic *régime*, which is the aim of most of the surgical institutions. Yet every now and again one sees things which make him wonder whether after all they are not missing the greater in too careful attention to the lesser things which make toward idealism. Thus patients in the Johns Hopkins Hospital, undergoing operation for hernia and appendicitis, and not urgent cases, were placed on the table without any preparation of the patient's skin beforehand. The shaving and scrubbing up of the abdomen and genitalia were then carried out in a few minutes by the theater porter, whose duties are to clean up the place and make himself generally useful. In one big New York hospital, with a more than local reputation for being up to date, I watched a surgeon don sterilized gloves without having sterilized his hands, transfer his eyeglasses from his vest pocket to his nose, and proceed to open a cerebellar abscess through the mastoid process, in a patient whose head had not been shaved, and whose hair had not been clipped. Later on, I asked the house surgeon if that was one of their best surgeons, and he assured me that he was—one of their finest. Frequently, after an abdominal section, the house surgeon was left to close the abdomen and apply the dressing. Surely, if the operation were worth beginning, it was worth finishing by the surgeon."

The Model Maternity at St. Petersburg.—A letter in the *Münch. med. Wochenschrift* for June 21, describes the new home of the unique clinical gynecologic-obstetric institute at St. Petersburg, formally inaugurated last February. The building and equipment have cost nearly two millions, and there are accommodations for 176, or at need for 200 patients. Prof. D. von Ott was the moving spirit, and has introduced many innovations. There is a constant supply of sterilized water and of physiologic salt solution, and hundreds of spray apparatus keep the air constantly moist. Ice is made artificially from sterilized water, and each bed is supplied with a telephone and is connected with a fine organ, installed at an expense of about $15,000, for research on the influence of the musical vibrations on the sick and well. Lavish use is made of electricity for heating, lighting, etc. A double sewerage system enables the sewage to be sterilized before it leaves the building. The left wing is for the maternity patients, the right for the gynecologic, the halls, etc., in the center. The beds can be wheeled into a sun parlor with southern exposure. Prof. von Ott is accoucheur to the royal family, director of the Woman's Medical Institute and Midwives' Institute, besides his work in the Maternity above described. He will complete next December the twenty-fifth year of his professional career, and his friends and pupils are getting up a *Festschrift* to present to him on this occasion. Prof. W. Stroganow of St. Petersburg has the matter in charge. Ott's method of ventroscopy was described in THE JOURNAL, 1902, xxxix, p. 454.

Immunization Against Anthrax.—According to the *British Medical Journal*, Mr. J. A. Gilruth, M.R.C.V.S., veterinary surgeon and bacteriologist to the New Zealand Department of Agriculture, has met with some success in immunizing animals against anthrax by adopting the method of mixed infection. He finds that guinea-pigs, rabbits, and sheep can completely resist the inoculation of large doses of virulent anthrax bacilli, provided that these organisms are mixed with a larger dose of certain other organisms which are non-pathogenic to the animals in question. In order to secure this result it is necessary that the anthrax bacilli should be actually mixed with the other organism used; for if the dose of each organism be injected separately, under different parts of the skin, no resistance is obtained. It is not claimed that a single inoculation establishes immunity, and it is conceded that an animal which has suffered with impunity the injection of a large dose of anthrax bacilli, when mixed with a foreign organism, may succumb later to a much smaller dose of pure anthrax culture. If, however, the doses of mixed cultures be repeated in increasing quantities, Mr. Gilruth finds that, in the case of rabbits and sheep, immunity to large doses of pure anthrax bacilli can be conferred. For the purpose of admixture with his anthrax cultures, he has found the bacillus of Gaertner a convenient organism to use. The following results of Mr. Gilruth's investigations are worth quoting: He has succeeded in producing in a rabbit an immunity to 4 c.cm. of pure virulent anthrax culture, and in another rabbit an immunity to 3 c.cm.; moreover, two sheep and a pig have each offered a successful resistance to 5 c.cm. of a similar culture. The antagonism of other organisms to anthrax has long been known, but the value of mixed inoculation as a practical preventive measure is not yet clear.

State Boards of Registration.

COMING EXAMINATIONS.

Maine Board of Registration of Medicine, November 15, Augusta. Secretary, A. K. P. Meserve, M.D., Portland.

New Mexico Board of Health, Santa Fe, December 5. Secretary, B. D. Black, M.D., Las Vegas.

Ohio State Board of Medical Registration and Examination, Columbus, December 13-15. Secretary, Frank Winders, M.D., Columbus.

State Medical Examining Boards of Delaware, Wilmington and Dover, December 13-15. Secretary, P. W. Tomlinson, M.D., Wilmington.

The Medical Examining Board of Virginia, Richmond, December 13-16. Secretary, R. S. Martin, M.D., Stuart.

Board of Medical Examiners of Maryland, Baltimore, December 14-17. Secretary, J. McP. Scott, M.D., Hagerstown.

Missouri State Board of Health, St. Louis University, St. Louis, December 19-21. Secretary, W. T. Morrow, M.D., Kansas City.

Iowa State Board of Medical Examiners, Capitol Building, Des Moines, December 21-22. Secretary, J. F. Kennedy, M.D., Des Moines.

Oklahoma Medical Examining Board, Guthrie, December 28. Secretary, E. E. Cowdrick, M.D., Enid.

Minnesota October Report.—Dr. C. J. Ringnell, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at St. Paul, Oct. 4-6, 1904. The number of subjects examined in was 12; total number of questions asked, 95; percentage required to pass, 75. The total number examined was 34, of whom 24 passed and 10 failed. The following colleges were represented:

College.	Year Grad.	Per Cent.
PASSED.		
Homeo. Dept., Univ. of Minnesota	(1904)	79.2
Coll. of Med. and Surg., Univ. of Minn.,	(1904)	80.35, 82.2, 83.8, 83.6.
Hamline University,	(1904)	86.85, 75.15, 83.3; (1903) 75
Homeo. Dept., Boston Univ.	(1904)	81.1
Johns Hopkins	(1904)	78.2
Hahnemann Med. Coll., Chicago	(1904)	84.6
Coll. of Med. and Surg., Chicago	(1904)	77.9
Keokuk Med Coll.	(1900) 76 3 (1904)	75.7
Jefferson Med. Coll.	(1904)	83
Laval Univ., Montreal	(1903)	85.7
Coll. of P. and S., Chicago	(1904)	82.85
Univ. of Pennsylvania	(1897)	86.4
N. W. Univ., Chicago	(1904) 80.45, 86.25; (1902)	85.75
Rush Med Coll.	(1901) 87.45, (1904)	86.75
FAILED.		
Hamline Univ.	(1904) 58.5, 74.4,	66.7
Univ. of Lausanne, Switzerland	(1903)	50.9
Univ. of Michigan	(1901)	68.9
Washington Univ., St. Louis	(1904)	72.5
Hahnemann Med. Coll., Pa.	(1897)	61.7
Coll. of P. and S., Chicago	(1904) 71.3,	71.4
Women's Med. Coll., Chicago	(1890)	65

The board has notified all medical colleges in the United States that graduates of medical colleges granting advanced standing for work done at other than medical colleges shall not be eligible to the examinations given by that board. By non-medical institutions the board refers to colleges of literature, arts, science, pharmacy, dentistry, veterinary surgery, etc. This, however, does not apply to students who were granted advanced standing prior to September, 1901.

The following questions were asked:

CHEMISTRY, URINALYSIS AND TOXICOLOGY.

1. Define atonic weight, valence and alkaloid. 2. Give symptoms and treatment of poisoning by prussic acid. 3. Give a quantitative

and a qualitative test for sugar in the urine. 4. What diseases may cause a sediment in urine? 5. Give a test for uric acid in the urine.

EYE AND EAR.

1. Name main points to be considered in an examination of the eye. 2. Corneal ulcer, etiology, symptomatology, treatment. 3. What is proper treatment for, (a) abscess of external meatus; (b) discharging ear chronic. Discuss a case. (a) Care of eyes of newborn. (b) Care of eyes of school children. 5. What eye and ear complications are liable to follow, (a) measles; (b) diphtheria; (c) scarlet fever?

MATERIA MEDICA AND THERAPEUTICS.

1. Name the principal mineral acids given internally in medicine and the dose of each. 2. Prescribe mercury internally for an adult with the beginning secondary symptoms of syphilis. 3. How would you treat constipation in a breast-fed infant of six months? 4. Give directions for the diet and hygiene of a patient with chronic interstitial nephritis. 5. What is wrong with this prescription:

℞. Argenti nitratis .....gr. jss.
Hydrargyri bichlorioi .....gr. j.
Aquæ destillatæ .....oz. vj.
Misce et solve. Sig.: For urethral injection.

6. Give a safe and efficient dose for an adult of cocain hydrochlorate: resin of podophyllum; tincture of digitalis; sulphate of strychnia; tincture of opium. 7. Prescribe a lotion containing carbolic acid for a case of papular eczema. 8. Name the two best diuretics and the dose of each. 9. What is an emulsion? Name an efficient emulsifying agent for oils. 10. What is the official title of Epsom salts, of Dover's powder, of Fowler's solution, of tartar emetic, of blue pill?

PATHOLOGY AND HISTOLOGY.

1. Give the pathologic differences between lobar or croupous pneumonia, and lobular or bronchopneumonia. 2. Give pathology of cirrhosis of the liver. 3. What is the condition of the heart muscle after a long and severe attack of typhoid fever? 4. Describe the specific lesions of the intestines in typhoid fever. 5. Give characteristic differences between follicular tonsillitis and diphtheria, pathologically considered. 6. What is found in the urine of an advanced case of Bright's disease, chemically and microscopically considered? 7. Differentiate pathologically between round ulcer and cancer of the stomach. 8. Differentiate between heart muscle and ordinary striated muscle. 9. Describe the red blood corpuscle; the white blood corpuscle. Give the function of each. 10. Describe briefly squamous, columnar and ciliated epithelium. Give some of the locations in which each is found.

MEDICAL JURISPRUDENCE.

In these questions the examiner aims to cover general principles only. The modifications of the common law in matters pertaining to medical jurisprudence are so many and so various in the different states and jurisdictions that the student is not assumed to be familiar with them all.

1. Give a good medicolegal definition of insanity. 2. In a body partially decayed, what would guide you in your efforts to identify the sex, the outward and obvious signs being obliterated by decomposition. 3. Tell how strychnia causes death, and give postmortem appearances, especially as regards rigor-mortis. 4. Define medical jurisprudence; give synonyms, and state in what particulars, if any, it differs from state medicine. 5. What would you consider a lethal dose to an adult person of each of the following: carbolic acid, chloral hydrate, hydrocyanic acid, morphia sulph., assuming that habit has not established a tolerance?

SURGERY.

1. Give classification of wounds. 2. Etiology and treatment of acute osteomyelitis. 3. Describe tenotomy; myotomy. 4. Symptoms and treatment of empyema of the chest. 5. Give etiology and clinical history of spondylitis. 6. Name the varieties of dislocation of the hip, and give the approximate percentage of each. 7. Diagnose and treat a case of obstruction of the bowels. 8. Describe and treat a case of talipes varus. 9. Describe and treat a ganglion. 10. Give usual strength in which the following antiseptics are employed in surgery: 1, Corrosive sublimate; 2, permanganese of potash; 3, lysol; 4, kreolin; formalin.

PHYSIOLOGY.

1. What are the more important physiologic uses of bile? 2. Give the most advanced views as to the formation of liver-glycogen and its more important uses physiologically. 3. Give mechanism and physics of eye accommodation. 4. Differentiate complemental, residual, stationary and supplemental air as applied to respiration. 5. What is the effect of alkalies in promoting pancreatic secretions? 6. Give functions and physical characteristics of red blood corpuscles. 7. The same of white blood corpuscles. 8. How (if at all) is urea derived from ammonium carbonate? 9. What effects would follow removal of the suprarenal capsules? 10. Name and locate some centers in the cerebral cortex.

DISEASES OF WOMEN.

1. The broad ligament: (a) describe briefly; (b) infection of, give causes, diagnosis and treatment. 2. Tuberculous peritonitis, etiology, symptomatology, prognosis and treatment. 3. Pruritus vulvæ: etiology, symptomatology and treatment. 4. Uterine polypus: Etiology, varieties, symptomatology, diagnosis and treatment. 5. Complete hysterectomy, sometimes called panhysterectomy: Define, give indications for and describe technic of operation.

DISEASES OF CHILDREN.

1. Chlorosis: Etiology, symptomatology, diagnosis and treatment. 2. Lobar pneumonia: Etiology, symptomatology, diagnosis, prognosis and treatment. 3. Acute endocarditis: Etiology, lesions, symptomatology and treatment. 4. Chronic iliocolitis: Etiology, symptomatology, diagnosis and treatment. 5. Acute rheumatism: Etiology, symptomatology and treatment.

THEORY AND PRACTICE.

1. Give a complete diagnosis of psoriasis. 2. Give full symptomatology of paretic dementia. 3. Give causes and diagnosis of myxedema. 4. Give causes and treatment of gastric dilatation. 5. Give causes and prognosis of cystitis, and differential diagnosis between it and pyelitis. 6. Define anemia. When would you employ iron and when arsenic in its treatment? 7. Give causes of pulmonary congestion and pulmonary edema with differential diagnosis. 8. Describe the pathologic changes of the heart resulting from insufficiency of the mitral valves. 9. How would you tell an anemic murmur from another functional murmur or organic murmur at the apex? 10. How does the normal respiratory sound under the left clavicle differ from that under the right?

ANATOMY.

1. Describe the pulmonary artery and give its origin. 2. Give origin and insertion of the biceps flexor cubiti, gastrocnemius, and sartorius muscles. 3. Name the branches of the abdominal aorta. 4. Describe the sphenoid bone and give its articulations. 5. Give the gross anatomy of the kidney. 6. Name the cranial nerves. 7. How many ligaments enter into the formation of the knee joint? Name them. 8. Describe Scarpa's triangle. 9. Describe the internal abdominal ring. 10. What arteries supply the uterus; give their origin?

OBSTETRICS.

1. Give differential diagnosis between pregnancy and (a) ovarian cyst, (b) subperitoneal myomata, (c) dropsy. 2. Give treatment for vomiting of pregnancy. 3. Describe the normal mechanism of labor in vertex presentation. 4. What other presentations of the head are there beside that of the vertex? 5. What is placenta previa? Treatment. 6. How do you distinguish a breech from a face presentation? What are the dangers of a breech presentation? 7. How do you guard against rupture of the perineum? How do you correct it, if it occurs? 8. What are the dangers of labor in twin pregnancies? 9. What is puerperal septicemia? Give prophylaxis. 10. How do you prevent ophthalmia neonatorum?

HOMEOPATHIC MATERIA MEDICA.

1. Describe the skin affection to which rhus tox. is homeopathic. 2. Distinguish ipecac and antimonium tart. in bronchopneumonia. Mention three remedies analogous in such conditions. 3. What are the most characteristic stomach and bowel symptoms of veratrum alb. 4. Distinguish acon., arsen., bell., bry. in feverish states. 5. Give characteristic symptoms of lachesis, lycopodium, podophyllum, china, pulsatilla.

ECLECTIC MATERIA MEDICA.

1. Give the use of echinacia, calcium sulphid and the dose of each. 2. Give the uses of ichthyol; hamamelis. 3. What are the indications for the use of potassium iodid, thuja, corydalis. 4. Name four diuretics and give dose of each. 5. Give specific indications for sodium salicylate, eupatorium, potassium chlorate. 6. Name three sedatives and give specific indications for each. 7. Give specific indications for cactus grand., strophanthus, digitalis. 8. What is the physiologic action of jaborandi, elaterium, hyoscyamus? 9. Give physiologic action of ergot, strychnin, potassium bromid. What is the dose of each? 10. Name three reliable hypnotics and give indications and dose of each.

Rhode Island October Report.—Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Oct. 6-7, 1904. The number of subjects examined in was 7; total questions asked, 70; percentage required to pass, 75. The total number examined was 11, of whom 9 passed and 2 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Boston University	(1904)	83.7
College of P. and S., New York	(1903) 85.4, (1904)	79.5
Harvard University	(1902) 91, (1904)	79.8
Kentucky School of Medicine	(1903)	77.6
Maryland Medical College	(1904)	75, 75.3
Syracuse University	(1904)	82.1
FAILED.		
College of P. and S., Baltimore	(Undergraduate)	57.6
University of Vermont	(1891)	74.0

Association News.

New Members.

List of new members for the month of October, 1904:

ARKANSAS.

Brewster, J. H., Prairie Grove.
Kittrell, T. F., Texarkana.
Longest, R., Wynne.
Patterson, R. Q., Grays.

CALIFORNIA.

Eddy, Geo. S., Los Angeles.
Bill, P. A., San Francisco.
Dodge, W., San Francisco.
Congdon, Willis R., Santa Cruz.
Gardner, Jerome, Madera.
Keating, J. J., Sebastopol.
Miller, C. H., San Leandro.
Sunburnt, W. T., Floriston.

COLORADO.

Hadley, Edgar, Telluride.
Smith, Pierre von der, Denver.

CONNECTICUT.

Crowe, W. H., New Haven.
Deane, H. A., East Windsor Hills.
Fontaine, Alphonse, Jewett City.
Gildersleeve, C. C., East Woodstock.
McKee, F. L., Hartford.
Ober, G. E., Bridgeport.
Perkins, W. S. C., Norwich.
Street, P. W., Suffield.

DISTRICT COLUMBIA.

Miller, G. B., Washington.

DELAWARE.

Jones, J. J., Wilmington.
Williamson, Jesse, Wilmington.

FLORIDA.

Flanagan, Katherine W. A., Key West.

GEORGIA.

Christian, J. M., Celeste.
Johnson, Seab, Wrightsville.
Selman, J. L., Douglasville.

ILLINOIS.

Baker, H. L., Chicago.
Burkhardt, C. F., Watson.
Henry, J. M., Chicago.
Heydt, Robt. von der, Chicago.
Gailey, B. S., Jacksonville.
Kincheloe, E. W., Decatur.
Long, David Ross, Troy.
Lewis, R., Carbondale.

INDIANA.

Kane, Alfred, Ft. Wayne.
McHugh, J. E., Ft. Wayne.
Christian, Wilmer, Indianapolis.

Kiser, Edgar F., Indianapolis.
New, C. F., Indianapolis.
Bohn, J. C., Terre Haute.
Smick, C. M., Terre Haute.
Ash, Elmer E., Goshen.
Brendel, J. F., Zionsville.
Becknell, Irvin J., Goshen.
Byers, Oliver A., Petersburg.
Besser, E., Remington.
Castello, Henry F., Decatur.
Cauble, W. C., Salem.
Dinsmore, Walter H., Kramer.
Dooley, Michael H., Loogootee.
Holland, Geo. F., Bloomington.
Kaszer, J., Plymouth.
Lorimer, John H. D., Hartford City.
McGowan, J. W., Oakland City.
Marshall, Robt. E., Elwood.
Seneff, John H., Crystal.
Starr, W. L., New Albany.
Shirley, H. W., Shoals.
Taylor, Jas. A., Montpelier.
Wilson, LeRoy A., Michigan City.
Williams, W. H., Lebanon.

IOWA.

Zalesky, Wm. J., Cedar Rapids.
Stevenson, Wm., Des Moines.
Couper, E. A., Britt.
Deshler, J. J., Glidden.
Hauge, Lars J., Forest City.
Parish, Ora F., Grinnell.
Rawlins, John A., Bassett.
Redmond, John P., Dysart.
Tyrrell, John B., Alta.
Wright, Howard J., Kingsley.

KANSAS.

Boggs, Matthew C., Syracuse.
Hamman, Geo. A., Lawrence.
Graves, W. H., Dodge City.
Lobdell, Mary J., Beloit.
Pihlbald, Arvid, Lindsborg.

KENTUCKY.

Andrews, Alfred J., Lexington.
Atkins, J. D., Williamsburg.
Botts, Andrew T., Lucas.
Botts, S. T., Glasgow.
Bird, R. Lee, Latonia.
Fitzhugh, Jas. S., Island.
Kincheloe, John E., Hardinsburg.
Kelley, Morriss de Witt, La Grange.
Lafsley, J. P., McAfee.
McCormick, Emmett B., Owensboro.
Purdy, Archibald D., Kuttawa.
Stilley, V. A., Benton.
Stuart, David Todd, Paducah.
Swain, Enos S., Smithfield.
Thomas, E. G., Benton.

LOUISIANA.

Blackman, R. H., Plain Dealing.
Caruthers, J. A., Baton Rouge.
Pankey, J. H., Dodson.
Poole, Samuel A., Simsboro.
Thomas, A. J., Mer Rouge.
Waddell, Preston E., Clarence.

MAINE.

Leslie, F. E., Andover.
Lethiecq, J. A., Brewer.
Leighton, C. M., Portland.
McCann, Daniel, Bangor.
McNally, W. P., Bangor.
White, E. A., Columbia Falls.
Woods, J. B., Robbinston.

MARYLAND.

Booker, Wm. D., Baltimore.
Craighill, Jas. M., Baltimore.
Dabney, W. M., Baltimore.
Gamble, C. B., Jr., Baltimore.
Lehnert, Ernest C., Baltimore.
Miller, Wm. E., Baltimore.
Platt, Walter B., Baltimore.
Smith, Joseph T., Baltimore.
Clemson, H. E., Port Deposit.
Crum, C. W. R., Jefferson.
Derr, H. K., Hagerstown.
Dent, Walter B., Oakley.
Houston, W. H., Fishing Creek.
Hoyt, Ralph L., Oriole.
Perry, Van Lear, Hyattsville.
Richardson, Will S., Williamsport.
Roman, Samuel T., Conowingo.
Simpers, I. N., Germantown.

MASSACHUSETTS.

Broughton, Arthur N., Boston.
Bowen, John T., Boston.
Cobb, Chas. H., Boston.
Davenport, Francis H., Boston.
Dunn, Chas. H., Boston.
Myers, Samuel W., Boston.
Newell, Franklin S., Boston.
Barnes, Allan F., Cambridge.
McIntire, Herbert B., Cambridge.
Halloran, M. J., Worcester.
Lincoln, Merrick, Worcester.
Ash, John H., Quincy.
Bartlett, Chas W., Marshfield.
Clapp, Arthur M., Springfield.
Croston, John F., Haverhill.
Cotton, Henry A., Hathorne.
Dodge, Arthur M., Newton Centre.
Harriman, Perley, Lynn.
Lockwood, Geo. B., Sharon.
Mahoney, Edw. J., Holyoke.
Schorer, C. B. J., Worcester.
Snow, Frank W., Newburyport.
Symonds, Alice G., Haverhill.
Taylor, J. G., Brookline.
Keaney, H. J., Everett.
Jack, E. S., Melrose.
McPherson, Ross, Cambridge.

MICHIGAN.

Starbuck, S. H., Hillsdale.
Bloch, S., Muskegon.
Bosman, J. W., Kalamazoo.
Breckon, G. Ralph, Caledonia.
Bird, J. T. Clarkston.
Culver, S. H., Mason.
Conklin, H. R., Tecumseh.
Cook, D. G., Holland.
Edwards, J. S., Grand Rapids.
Garber, Frank W., Muskegon.
Fleming, Jas. A., Muskegon.
Costanian, Jas., Sault Ste. Marie.
Hyndman, Peter, Jackson.
Osting, Jacob, Muskegon.
Seger, F. L., Leslie.
Scott, W. P., Houghton.
Sutherland, Clark J., Clarkston.
Stevenson, C. A., Eaton Rapids.
Wardell, J. M., Cadillac.
Young, W. G., Grand Rapids.

MINNESOTA.

Hoff, Peder A., St. Paul.
Macdonald, J. W., Minneapolis.
Haynes, Jas., Minneapolis.
Wanous, Ernest Z., Minneapolis.
Bloom, Wm. D., Minneapolis.
Johnson, Christian, Willmar.
MacKenzie, L. F., Villard.
Hall, Charlotte C., St. Paul.
Barton, Edgar R., Frazee.
Bergquist, Karl E., Cokato.
Bennett, O. E., Sanborn.
Beadle, Wm. D., Windom.
Batcheller, Oliver T., Brainerd.
Daignault, Oscar, Benson.
Drake, Frederick A., Larnsboro.
Dunlop, A. H., Crookston.
Greene, Chas. A., Windom.
Hagen, Henry O., New Richland.
Nicholson, Donald A., St. Peter.
Noth, Henry W., Marine Mills.
Nannestad, Jas. R., Bricelyn.
Onsgard, L. K., Houston.
Powell, C. D., Bellingham.
Rodli, Olaf Erling, Albert Lea.
Schefcek, J. Francis, Hutchinson.
Shaw, A. W., Brohl.
Stewart, C. A., Duluth.
Torgerson, W. B., Clarkfield.
Thordarson, Theo., Minneota.

MISSISSIPPI.

Bott, F. L., Lexington.
Blundell, Geo. P., Yazoo City.
Cheek, Elbert A., Arcola.
Carr, D. J., Laurel.
Dampeer, J. M., Crystal Springs.
Flynt, S. B., Meridian.
Guthrie, J. M., Quitman.
Higdon, R. E., Brookhaven.
Lee, A. S., Foote.
McNiell, G. H., Newton.
McCracken, W. H., Alligator.
Paxton, Elisha, Gloster.
Patterson, Wm. P., Beauregard.
Stockard, R. R., Columbus.
Stuart, Wm. W., Clarksdale.
Smith, R. Curtis, Potter.

MISSOURI.

Burton, S. L., College Mound.
Phillips, G. M., St. Louis.
Crews, R. N., Williamsburg.
Dean, L. E., Maryville.
Lowery, J. M., Crulerville.
Martin, A. J., East Prairie.

NEBRASKA.

Chedeck, B. H., Verdigre.
Job, C. B., Broken Bow.
Kaufmann, A. J., Sutton.
Polk, L. F., Raymond.
Porter, E. J., Mason City.
Smith, E. L., Shelton.

NEW HAMPSHIRE.

Cobb, Joseph J., Berlin.
Cateliler, A., Berlin.
Hill, G. C., Keene.
O'Brion, C. C., Groveton.
Littlefield, A. M., New London.
Sanborn, Geo. H., Henniken.

NEW JERSEY.

Areson, W. H., Upper Montclair.
Pollak, B. S., Jersey City.
Boyd, W. S., Jersey City.
Gage, Ruel S., Newark.
McCormick, D. L., Newark.
Cantwell, F. V., Trenton.
Wallace, Henry, Glen Ridge.
De Groot, G. S., Mendham.
Dolan, Thos. E., Elizabeth.
Luther, C. V., South Orange.
Riordon, John, Carlstadt.
Shaul, F. G., Bloomfield.

NEW YORK.

Dower, A. J., Brooklyn.
Sage, A. G., Buffalo.
Levin, Isaac, New York City.
Potter, Mary Goddard, New York City.
Ruppe, E. F., New York City.
Warren, Mortimer, New York City.
Cummins, J. P., Ticonderoga.
Cady, G. M., Nichols.
Henry Asa G., Cortland.
Hunt, Edward L., Orchard Park.
Reeves, R. A., Macedon.
Ely, Albert H., New York City.
Titus, Edward C., New York City.
McCarthy, Owen E., Niagara Falls.
Smith, L. H., Palmyra.
Selleck, V. D., Glens Falls.

NORTH CAROLINA.

Ripley, F. J., Asheville.

NORTH DAKOTA.

Countryman, John E., Grafton.
Donovan, E. I., Langdon.
Langdon, A. A. J., Sanborn.
Scanlan, Wm., Page.

OHIO.

Barton, E. W., Akron.
Chase, Wm. S., Akron.
Buttemiller, Geo. S., Cincinnati.
Falls, Wm. H., Cincinnati.
Grimm, Adolph, Cincinnati.
Rochford, B. K., Cincinnati.
Tate, Ralph B., Cincinnati.
Champlin, H. D., Cleveland.
Darby, John E., Cleveland.
Franke, F. C., Cleveland.
Peskind, Samuel, Cleveland.
Sunkle, R. H., Cleveland.
Stotter, Jas., Cleveland.
Gilliam, Earl M., Columbus.
Brown G. T., Phillipsburg.
Britton, S. H., Marion.
Coleman, W. K., West Union.
Essington, U. K., Somerset.
Gregory, Wm. M., Berea.
Huston, A. Lincoln, Bellefontaine.
Locke, L. G., Haverhill.
Marsh, Van Newhall, Flushing.
Phillips, D. T., Morristown.
Seller, I. P., Piketon.
Sager, Henry W., Marion.
Wood, Orlando S., Haydenville.
Wright, Frank O., Wilmington.
Webster, Samuel J., Brooklyn.

OKLAHOMA.

Benson, Adelbert H., Faxon.
Postelle, J. M., Oklahoma City.

OREGON.

Earle, B. H., Astoria.
Findley, M. C., Grant's Pass.

PENNSYLVANIA.

Kephart, T. A. C., Altoona.
Davis, Frank M., Allegheny.
Gould, Margaret A., Allegheny.
Shreve, Owen M., Erie.
Lefever, C. H., Erie.
Netscher, C. E., Lancaster.
Sloan, I. E., Johnstown.
Burkhart, E. J., Johnstown.
Sunstein, Noah, McKeesport.
Arbuthnot, Thos. Shaw, Pittsburg.
Black, J. L., Pittsburg.
Curll, C. L., Pittsburg.
Davidson, R. E., Pittsburg.
Goldsmith, Milton, Pittsburg.
Hampsy, A. R., Pittsburg.
McKibben, A., Pittsburg.
McWilliams, W. M., Pittsburg.
Meredith, E. W., Pittsburg.
Seegman, Simon, Pittsburg.
Stewart, Acheson, Pittsburg.
Simonton, Thos. Grier, Pittsburg.
Swope, Lorenzo W., Pittsburg.
Terheyden, Wm. A., Pittsburg.
Brittingham, Jas. D., Philadelphia.
Fraley, Frederick, Philadelphia.
Lewis, Morris J., Philadelphia.
Milliken, Frederick, H., Philadelphia.
Sutliff, Van Duyne A., Philadelphia.
Smith, David D., Philadelphia.
Woodcock, Lee B., Scranton.
Maxwell, John Ralph, Washington.
Person, J. A., Wilkesbarre.
Campbell, E. B., Williamsport.
Crawford, S. M., Columbia.
Caldwell, R. E., Morris Run.
Davis, M. M., Indiana.
Dalbey, J. P., Gettysburg.
Dickson, R. W., Leetsdale.
Flegal, I. S., Karthaus.
Free, Spencer M., Du Bois.
Holman, A. P., Butler.
Hurd, Jas. T., Galeton.
Lasher, W. W., Saxonburg.
Laciar, H. J., Bethlehem.
Meyers, W. H., Meyersdale.
McCaskey, F. H., Freedom.
Miller, Thos. A., Bellevue.
Neale, H. M., Upper Lehigh.
Riley, J. D., Mahanoy City.
Rohrer, F. M., Quarryville.
Stewart, W. J., Coraopolis.
Seville, D. W., Bellevue.
Stewart, R. A., Independence.
Stoyer, Geo. W., Sharpsville.
Simpson, Geo. E., Indiana.
Wagner, A. F., Glen Moore.

PHILIPPINE ISLANDS.

Edwards, J. F. Manila.

RHODE ISLAND.

Campbell, Edw., Providence.
Hathaway, Geo. S., Providence.
Lillibridge, B. J., Providence.
Pegram, J. C., Jr., Providence.
Westcott, C. S., Providence.
Jenckes, F. H., Woonsocket.
Stores, B. W., Portsmouth.

SOUTH CAROLINA.

Dibble, E. Marvin, Marion.
Gambrill, C. C., Abbeville.
Hall, H. T., Aiken.
Hayden, A. H., Summerville.
Jeter, J. T., Santuck.
Jackson, H. P., Charleston.
Mauldin, Leland Osgood, Pickens.
Mood, W. R., Summerton.
May, Chas. R., Blenheim.
Odom, H. A., Springfield.
Watson, John Ernest, Ira.

SOUTH DAKOTA.

McSloy, Jas. H., Sturgis.

TENNESSEE.

Oliver, G. W., Medina.

TEXAS.

Moody, Geo. H., San Antonio.
Harris, Chas. H., Ft. Worth.
Nave, Thos. Wm., Galveston.
Gammon, Wm., Galveston.
Hines, John F., San Antonio.
Hughes, E. T., San Antonio.
Andrews, Judson, M., Wharton.
Adams, Bon O., Eaton.
Alexander, Wm. H., Ravena.
Byars, C. R., Bay City.
Bundy, Zachary Taylor, Milford.
Beall, Joseph Alfred, Center Point.
Bynum, J. T., Neinda.
Childress, H. J., Gilmer.
Dennan Alex Madison, Lufkin.
Dye, Liebern Lee, Plainview.
Daly, T. J., Boyce.
Donges, H. E., Sastell.
Floyd, G. F., Lone Oak.
Foster, Edw. C., Whitt.
Gilbert, Jackson M., Lewisville.
Graham, Robt. L., Olin.
Graves, Edwin, Gatesville.
Graham, Louis H., Boyce.
Goolsby, Z. T., Enloe.
Gallaher, J. W., Graham.
Hutchins, J. F., Oakland.
Haley, J. F., Oenaville.
Halleman, W. D., Laneville.
Hine, Lucius S., Oakalla.
Jenkins, Berry L., Lyra.
Johnson, Jonas L., Eastland.
Jones, Thos. A., Selfs.
Knolle, B. E., Industry.
Lesnett, Christopher R., Fairlie.
Lister, Sidney M., Richmond.
Lowrie, S. A., Talpa.
McBeth, C. A., Miles.
Mantooth, J. T., Altoga.
McCulstion, Wm. W., Cooper.
Manes, O. B., Coleman.
McWhorter, C. E., Seagoville.
McKnight, J. M., Laredo.

Martin, M. L., Denton.
McCaan, J. D., Stacy.
Neville, J. E., Petty.
Pipkin, Thos. Price, San Angelo.
Poe, Andrew C., Carbon.
Pannell, J. A., Martindale.
Patton, Wm. Daniel, Amarillo.
Patrick, Wm. R., Brackettville.
Rape, Thos. A., Ballinger.
Ramsey, John B, Alto.
Radkey, Oliver Henry, Edna.
Robertson, Thos. W., Stamford.
Robertson, J. C., Mt. Pleasant.
Robertson, Patrick Frank, Montell.
West, Gillespie S., Palestine.
Strother, Edwin B., Plano.
Terhune, Archibald A., Jefferson.
Taylor, Jas. Job, Richland Springs.
White, R. R., Temple.

VERMONT.

Brigham, Fred C., Jamaica.
Rogue, Homer A., Richford.
Cooley, Thos. R., Rutland.
Clark, Edw. R., Castleton.
Farmer, Frank E., Middlebury.
Grout, Don D., Waterbury.
Havens, Walter L., Chester Depot.
Manchester, H. L., Pawlet.
Richardson, Jos. W., Burlington.

VIRGINIA.

Baird, Jas. Walter, Carsley.
Crockford, Wm. Hamilton, Dorchester.
Douglas, Morton G., Warrenton.
Early, Bernard Heath, Montvale.
Gary, Roscoe B., Newport News.
Hicks, Jas. R., Cove Creek.
Kipps, D. M., Front Royal.
Lewis, J. Newton, Roanoke.
Mann, David Meade, Richmond.
Stover, Geo. A., South Boston.
Stump, Levi Johnson, Pocahontas.
Trevillion, John G., Richmond.

WASHINGTON.

Maxson, Frank T., Seattle.

WEST VIRGINIA.

Kent, Oscar A., Huntington.
Stone, Harry B., Ashland.
Winfield, John B., Johnstown.

WISCONSIN.

Baldwin, Geo. E., Dartford.
Cairns, Rolla U., River Falls.
Cole, Chas. E., Prairie du Chien.
Gratiot, W. M., Mineral Point.
Grannis, E. H., Menominee.
Hausmann, Nicholas Edw., Kewaskum.
Jacob, Benj. U., Waukesha.
Monroe, Wm. B., Monroe.
Moseley, John Hamilton, Tomah.
Raasoch, Halfdan, Nelsonville.
Schmidt, E. S., Oshkosh.
Schmitter, Ferdinand, Madison.
Swedenburg, Francis G., Rock Elm.
Webster, A. M., Alma.
Williamson, M. R., Oconomowoc.

WYOMING.

Johnson, S. W., Cambria.
Murray, E. S., Rock Springs.

The Public Service.

Army Changes.

Memorandum of changes of station and duties of medical officers, U. S. Army, week ending Nov. 5, 1904:

Geer, C. C., asst.-surgeon, returned from sick leave of absence to sick in General Hospital, Washington Barracks, D. C.

Ford, J. H., asst.-surgeon, granted two months' leave of absence, to take effect about Nov. 15, 1904.

Robbins, C. P., asst.-surgeon, relieved from duty at Fort Terry, N. Y., and ordered to Fort Ethan Allen, Vt., for duty.

Polhemus, A. S., surgeon, ordered before Army retiring board at Fort Leavenworth, Kan., for examination.

Stiles, H. R., asst.-surgeon, ordered to report to commanding officer at Washington Barracks, D. C., for duty as surgeon.

Birmingham, H. P., surgeon, relieved from duty at Washington Barracks and ordered to report to the commanding general, Department of Texas, for duty as chief surgeon of that department.

Jones, P. L., asst.-surgeon, ordered to proceed from Fort Monroe, Va., to New York City for duty as transport surgeon, transport *Sumner*.

Owen, Wm. O., surgeon, granted thirty days' leave of absence.

Purviance, Wm. E., surgeon, Pipes, Henry F., and Bingham, E. G., asst.-surgeons, left San Francisco on the *Sherman* en route to Manila, P. I.

Duval, D. F., asst.-surgeon, leave of absence extended fifteen days.

Wolven, F. Homer, contract dental surgeon, arrived at San Francisco, October 17; ordered to Fort Adams, R. I., for duty.

Whinnery, Jean C., contract dental surgeon, arrived at San Francisco October 17; granted leave of absence for two months and at expiration to report at Vancouver Barracks, Wash., for duty.

McMillan, Clemens W., contract surgeon, relieved from further duty at Fort Myer, Va., and directed to proceed at the expiration of his present leave of absence to Fort Terry, N. Y., for duty.

Hallwood, James B., contract surgeon, left Fort Leavenworth, Kan., October 27 on leave of absence.

Mason, George L., contract dental surgeon, granted leave of absence for one month.

Wing, Franklin F., contract dental surgeon, ordered from Fort Riley, Kan., to Fort Des Moines, Iowa, for temporary duty.

Adair, George F., contract surgeon, relieved from temporary duty at Fort Du Point, Del., and ordered to return to his proper station, Fort Wadsworth, N. Y.

Sievers, Robert E., contract surgeon, arrived at Fort Harrison, Mont., October 25, from temporary duty at Fort Assinniboine, Mont.

Dade, Waller H., contract surgeon, relieved from further duty in the Philippine Division and directed to proceed at the expiration of his present leave of absence from Henderson, Ky., to Fort D. A. Russell, Wyo., for duty.

Hull, Alva R., contract surgeon, on relief from duty at Fort D. A. Russell, Wyo., ordered to San Francisco for transportation to the Philippine Division.

Boak, S. Davis, contract dental surgeon, left Fort Slocum, N. Y., November 4 on leave of absence for one month.

Jenkins, Frederic E., contract surgeon, left Fort Barrancas, Fla., November 2 on two months' leave of absence.

Pinkston, Omar W., contract surgeon, granted leave of absence for two months.

Navy Changes.

Changes in the medical corps of the Navy, week ending Nov. 5, 1904:

Lando, M. E., appointed asst.-surgeon from October 26.

Hart, G. G., A. A. surgeon, ordered to Marine Barracks, Dry Tortugas, Fla.

Sutton, R. L., asst.-surgeon, detached from the Naval Hospital, New York, and ordered to the *Massachusetts* November 28.

Winn, C. K., and de Valin, Hugh, appointed A. A. surgeons from October 28.

Geiger, A. J., asst.-surgeon, detached from the Naval Hospital, Yokohama, Japan, and ordered home.

Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ending Nov. 2, 1904:

Peckham, C. T., surgeon, granted extension of leave of absence for ten days from November 8.

Smith, A. C., P. A. surgeon, to proceed to New York and report to chairman of board of examiners for examination to determine his fitness for promotion to the grade of surgeon.

Cumming, H. S., P. A. surgeon, relieved from duty as member of board for examination of Asst.-Surgeon J. W. Amesse, to determine his fitness for promotion to the grade of P. A. surgeon.

Clark, Taliaferro, P. A. surgeon, to proceed to Baltimore, Md., for temporary duty in connection with inspection of aliens, relieving Asst.-Surgeon A. D. Foster.

Lumsden, L. L., P. A. surgeon, relieved from duty at Vera Cruz, Mexico, and directed to proceed to the Immigration Depot, New York, and report to Surgeon G. W. Stoner for duty.

Richardson, T. F., P. A. surgeon, relieved from duty at Laredo, Texas, and directed to proceed to Savannah, Ga., and assume command of the service, relieving Surgeon S. D. Brooks.

Richardson, T. F., P. A. surgeon, granted leave of absence for fifteen days.

McClintic, T. B., P. A. surgeon, to report to director, Hygienic Laboratory, for duty. Granted leave of absence for seven days from Oct. 31, 1904, under Paragraph 191 of the Regulations.

Goldberger, Jos., P. A. surgeon, relieved from duty at Tampico, Mexico, and directed to proceed to Washington, D. C., and report at bureau preliminary to assignment to duty in the Hygienic Laboratory for course of instructions.

Trotter, F. E., P. A. surgeon, detailed as member of board for examination of Asst.-Surgeon J. W. Amesse, to determine his fitness for promotion to the grade of P. A. surgeon.

Gwyn, M. K., asst.-surgeon, relieved from duty at Jolo, P. I., and directed to proceed to the United States and report arrival at San Francisco.

Foster, A. D., relieved from duty at Baltimore, Md., and directed to proceed to Naples, Italy, and report to P. A. Surgeon J. M. Eager for duty in the office of the United States Consul.

Robertson, H. McG., asst.-surgeon, to proceed to Baltimore, Md., and assume temporary charge of service during absence of Asst.-Surgeon C. W. Wille.

Woods, C. H., pharmacist, granted leave of absence for fifteen days from October 27.

BOARD CONVENED.

Board convened to meet at the Marine Hospital, Chelsea, Mass., Nov. 2, 1904, for the physical examination of an officer of the Revenue-Cutter Service. Detail for the board: Surgeon R. M. Woodward, chairman; Asst.-Surgeon W. C. Rucker, recorder.

Health Report.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the period from Oct. 29, to Nov. 4, 1904:

SMALLPOX—UNITED STATES.

California: San Francisco, Oct. 15-22, 1 case.
Illinois: Chicago, Oct. 22-29, 14 cases.
Michigan: At 50 places, Oct. 15-22, present; Grand Rapids, Oct. 22-29, 1 case.
Minnesota: Oct. 17-24, Hennepin Co., 11 cases; Ramsey Co., 5 cases; Stearns Co., 47 cases.
Missouri: St. Louis, Oct. 22-29, 8 cases, 2 deaths.
Pennsylvania: Philadelphia, Oct. 22-29, 1 case.
Tennessee: Memphis, Oct. 22-29, 1 case.
Wisconsin: Milwaukee, Oct. 22-29, 9 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, Sept. 17-24, 4 cases.
Austria-Hungary: Prague, Oct. 8-15, 7 cases.
Belgium: Brussels, Oct. 8-15, 1 death.
Brazil: Bahia, Oct. 1-8, 21 cases, 2 deaths.
China: Hongkong, Sept. 10-17, 1 case.
France: Paris, Oct. 8-15, 10 cases.
Great Britain: Glasgow, Oct. 14-21, 1 case; Leeds, Oct. 8-22, 4 cases; Oct. 8-15, Manchester, 1 case; Newcastle-on-Tyne, 5 cases; Nottingham, 2 cases.
India: Bombay, Sept. 28-Oct. 4, 4 cases.
Italy: Palermo, Oct. 8-15, 11 cases, 2 deaths.
Russia: Moscow, Oct. 1-8, 3 cases, 2 deaths; Odessa, Oct. 8-15, 1 case; St. Petersburg, Sept. 25-Oct. 8, 11 cases, 1 death.
Spain: Barcelona, Oct. 10-20, 2 deaths.
Turkey: Alexandretta, Oct. 10, epidemic; Beirut, Oct. 8-15, present; Constantinople, Oct. 2-17, 39 deaths.

YELLOW FEVER.

Cuba: Punta de Sal, Santiago, Oct. 24, 1 case.
Ecuador: Guayaquil, Sept. 30-Oct. 5, 1 death.
Mexico: Coatzacoalcos, Oct. 15-22, 2 cases, 2 deaths; Oct. 16-22, Merida, 1 case; Tehuantepec, 1 case; Texistepec, 53 cases, 5 deaths.

CHOLERA.

India: Bombay, Sept. 27-Oct. 4, 7 deaths; Madras, Sept. 24-30, 1 death.
Persia: Oct. 17, Ensell, epidemic; Resht, 120 to 140 deaths daily; Senemditah, epidemic.
Russia: Transcaspian District, Sept. 17-29, 44 cases, 23 deaths.
Turkey: Bagdad and vicinity, Sept. 12-26, 1,513 cases, 1,017 deaths.

PLAGUE.

Brazil: Bahia, Oct. 1-8, 1 death.

China: Hongkong, Sept. 10-17, 4 cases, 4 deaths.
Egypt: Alexandria, Sept. 10-30, 12 cases, 8 deaths; Port Said, Sept. 17-23, 1 case.
Great Britain: South Shields, Sept. 19, 1 case on S. S. *Bishopsgate* from Rosario, via Hamburg.
India: Bombay, Sept. 27-Oct. 4, 80 deaths; Karachi, Sept. 25-Oct. 2, 14 cases, 8 deaths.
Mauritius: July 8-Aug. 4, 8 cases, 6 deaths.
Peru: Eten, Oct. 8, present; Lima, Sept. 1-Oct., 13 cases; Pacasmayo, Oct. 8, present.

Society Proceedings.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirtieth Annual Meeting, held in Cincinnati, Oct. 11-13, 1904.

(*Concluded from page 1409.*)

The Prevention of Appendicitis.

DR. WILLIAM M. HARSHA, Chicago, stated that from available figures it would seem that this disease is more frequent in America than elsewhere. This is on the assumption that the mortality rate is much the same in England, Germany and France, where modern methods of medical and surgical treatment are practiced, and where statistics are or should be reliable. In England and Wales, with a population of about 33,000,000, there were 1,244 deaths from appendicitis and perityphlitis in 1901, or 38 per million. In 1902 there were 1,485 deaths, or 45 per million. In Illinois, with a population of about 5,000,000, there were in 1903, 471 deaths from appendicitis, or 94 per million. In Chicago alone, which represents nearly two-fifths of the population of the entire sta e, there were 249 deaths in 1902 and 260 in 1903, being at the rate of 140 per million. The same high death rate was approximated in other cities of the United States, especially in similar latitudes. New York City had, in 1903, 439 deaths, or 123 per million. Statistics of deaths from this disease in various cities both at home and abroad were given. Dr. Harsha believes that errors of diet are the most frequent cause. The disease occurs most frequently at the age and in the sex in whom faulty habits of eating and errors of diet are most common. It is common to see attacks follow an immoderate meal, or the ingestion of indigestible articles of food. Cholera morbus ushers in many cases of appendicitis, which are regarded as the primary trouble. The individual case must be considered and treated by itself. Proper hygienic conditions should be secured to keep the vital resistance up to the highest point. During the past six or seven years he has advised these measures as preventive after one attack in which there had been no operation, and so far as can be known, he believes recurrence has not occurred in over 20 per cent. Most of these were in young people, partly because of the greater frequency in the young, and in part because of lack of the patient's intelligent co-operation. The consensus of opinion is that more than 50 per cent. of the cases not operated on recur.

The Etiology of Fissure in Ano.

DR. J. RAWSON PENNINGTON, Chicago, expressed the opinion that the theories usually accepted as the cause are erroneous and that a more comprehensive etiology is needed. He regards the location of the ulcer as anatomic, and as depending principally on the support given to the tissues of the anal canal by the sphincters and levator ani muscles. When the canal is over-distended the dorsal surface receives the least support from these muscles, the anterior the next, while the sides receive the greatest. At the terminal portion this relative support is due to the difference in the distance between the posterior commissure and the tip of the coccyx, the origin of the external sphincter, and the tendinous center of the perineum, its insertion and the anterior commissure. The posterior fibers of the muscle are more deployed than those of the anterior, hence, when pressure is made from within outward it is obvious that the weakest point in this muscle is at or near the posterior commissure; the next weakest point, at or near the anterior commissure. Therefore, when this canal is placed under sufficient stress to rupture its tissues, the tear, all things being equal, should occur first on the dorsal surface, as it receives the least muscular support; second, on the anterior surface, as it is the next weakest point, and lastly, on the sides.

Hereditary Predisposition in Tuberculosis.

DR. CHARLES L. MIX, Chicago, said that hereditary predisposition was usually defined as a specific predisposition toward tuberculosis, the nature of which is purely speculative, and it exists to-day because of the difficulty of demonstrating actual infection. The argument in favor of hereditary predisposition is as follows: Tubercle bacilli are ubiquitous; everyone is constantly breathing them in. Half the people become tuberculous; half escape. Half are, therefore, predisposed, and half are immune. The major premise is false, as was shown by a table illustrating the number of individuals to each consumptive, and explaining the maximum incidence of tuberculosis at the ages of from 20 to 35 years. Dr. Mix said that there are many fallacies in the usual statistics tending to support the theory of hereditary predisposition. Hereditary predisposition implies hereditary immunity, but the latter apparently has no existence.

DISCUSSION.

DR. G. W. MCCASKEY said that the important thing to remember is that tuberculosis is always an infection. There is little doubt that everyone living in a civilized community inhales tubercle bacilli at one time or another, the inoculations proving effective or otherwise, according to the local and constitutional states of the individual.

DR. A. P. BUCHMAN, Fort Wayne, said that one does not invariably become tuberculous on exposure to the tubercle bacillus; otherwise everyone would be tuberculous. Often tubercle bacilli may be found in the absence of manifest tubercular infection.

DR. C. L. MIX said that acquired predisposition exists, and the individual may also inherit a predisposition, not only to tuberculosis, but to any of the infections.

Treatment of Tubercular Pleuritis.

DR. JAMES A. BURROUGHS, Asheville, N. C., reported cases in which he had injected salt solution into the pleural cavity for pulmonary hemorrhage in tuberculosis.

DISCUSSION.

DR. N. MCKITTERICK, Burlington, Iowa, said that such injections in the presence of diseased lungs and pleura, to compress the lung, are dangerous and that the method does not merit much consideration in the statistics given by Dr. Burroughs.

DR. CARL VON RUCK, Asheville, agreed as to the danger and said that in tuberculosis of the lungs, the cavities tend to work toward the pleural surface of the lung. To prevent rupture Nature causes a thickening of the pleural surface of the lung at that point. The injection of air or fluid into the pleural cavity to bring about the control of pulmonary hemorrhage through pressure requires the breaking up of the adhesions which Nature has formed, in order to accomplish compression of the lung.

DR. J. A. BURROUGHS considered the matter still in an experimental stage.

The Obstetric Significance of the Transverse Diameter of the Pelvis.

DR. JOSEPH B. DE LEE, Chicago, reviewed the facts that there is a diminished transverse diameter in funnel-shaped, assimilation, masculine, and infantile pelves. Dr. De Lee believes that in such cases there is frequently difficulty in delivery, especially in the passage of the shoulders and the extraction of the aftercoming head. He also said that the expectant method should not be tried too long, as frequently the forceps suffice for delivery. Not infrequently symphysiotomy may be indicated. In breech cases delivery may often be facilitated by the application of forceps to the aftercoming head.

DISCUSSION.

DR. HENRY F. LEWIS, Chicago, said that the contraction of the transverse diameter of the pelvic outlet is probably more frequent than is generally supposed. In these cases the for-

ceps should be applied early. In cases of infection in the male type of pelvis, when the head is well advanced, if the forceps fail, symphysiotomy is often an ideal operation.

DR. DE LEE stated that in a breech case we were formerly instructed to put the forceps in our pocket. In such cases we should now put the forceps on to boil. As a matter of fact, the forceps fit the aftercoming head better than when the head presents. The exaggerated lithotomy position is sometimes of value. He reported a case in which an assistant performed tracheotomy on the child in a breech case. The child lived.

Hydrotherapy in Nervous Diseases.

DR. CHARLES W. HITCHCOCK, Detroit, described the effects of hydriatic applications, and showed that water may be made a promotor of elimination and a stimulant to all the vegetative processes. Properly applied, it is a powerful tonic and may be an excitant, but it is also the finest sedative at our command.

The Treatment of the Morphin Habit.

DR. CURRAN POPE, Louisville, Ky., pointed out the necessity of appreciating the peculiar state of mind of these patients. Too much importance can not be attached to the condition of the excretory organs. There should be complete elimination before commencing the reduction of the drug, after which reduction may be painlessly carried to a certain point, and all shock avoided. Help should be given, not as a substitute, but in the shape of a neuro-cardio-vascular support. When the drug is entirely removed a substitute should be used, not hyoscin. The value of non-medicinal treatment, such as massage, vibration, electricity, hydrotherapy, isolation and moral control, can not be overestimated in these cases. The value of aftertreatment and the need of keeping in touch with the patient is a part of the system.

DISCUSSION.

DR. FRANK P. NORBURY, Jacksonville, Ill., said that his experience has not always been ideal. Recovery is not always smooth, and relapses are frequent. It is advisable to place these patients at rest in bed at once, and after perhaps two weeks the drug may be withdrawn. Often sodium bromid is useful as a substitute for morphin, and cannabis indica is frequently of value as a stimulant. Relapse is especially frequent in neurasthenic women. He reported a case in which the patient used heroin instead of morphin.

DR. JOHN PUNTON said that the patient must be made to understand at the start that he must co-operate with the physician. The idiosyncrasies of patients to the drug differ. Hyoscin is a most valuable drug when properly used, but is very dangerous when used promiscuously. The majority of physicians who come for treatment claim they can not spend the time necessary to effect a cure.

DR. ALBERT E. STERNE, Indianapolis, did not think that Dr. Pope laid sufficient stress on the reduction of the basis on which the drug habit rested. One must take into account the fundamental nerve weakness which even the physically strong may present. Habituation is not purely functional; there is a structural change in the nervous system, which supplies the physical basis for the condition. The use of drugs is to be deprecated. Many of the so-called abstinent symptoms are really not such. Hyperacidity often requires treatment.

DR. T. B. GREENLEY, Meadow Lawn, Ky., said that many morphin habitués are able to work and earn sufficient to pay for the drug consumed, but make barely a living, and can not afford to take proper treatment.

DR. GEORGE P. SPRAGUE, Lexington, Ky., said that the drug should be discontinued immediately. It may be withdrawn in from five to ten days except in perhaps one case in twenty. Often the patient is sustained by a minute quantity of morphin. Some claim that one-eighth of a grain is satisfactory, and the reduction to that point is not objected to by them. It is better not to stop the drug altogether until a decreased dosage of one-twentieth of a grain or less has been reached, or until twenty-four hours can be passed without the drug without unpleasant symptoms.

DR. R. E. HAUGHTON, Richmond, Ind., regarded this condition as a practical toxemia affecting the cellular elements of the brain. Absolute control of the patient is necessary for success. We must sustain the individual and at the same time secure elimination.

DR. T. D. CROTHERS said that psychotherapeutics and hydrotherapeutics are useful. Nerve rest is important and drugs should be avoided.

DR. FALK said that in prison practice he withdraws the drug at once. The use of ergot, and the administration of elixir of chloral and bromid at night prevents any unpleasant results. None of the cases had been cured permanently.

DR. B. F. BEEBE, Cincinnati, said that a week or ten days is too short a time for the removal of the drug. Elimination should be as rapid as possible, and the patient should be built up as the drug is withdrawn.

DR. POPE insisted on from four to six weeks for the aftertreatment, because nutrition must be improved..

Effect of Direct and Indirect Violence on the Skull and Brain.

DR. ALBERT E. STERNE, Indianapolis, said: "Injuries of impact, however extensive, offer a better immediate and remote prognosis than those of momentum, but must be treated with as little delay as possible, and almost always surgically. In injuries of momentum lesions through *contre-coup* are more apt to occur. After trauma to the skull and brain, the immediate necessity is free drainage and avoidance of intracranial pressure. The possibility of fracture should be kept in view after injuries to the head, and scalp wounds should, if necessary, be freely enlarged to determine the wisdom of further operative interference. Progressive coma, after momentum injuries, is a strict indication for operation."

The Mental Disorders of Adolescence.

DR. FRANK P. NORBURY, Jacksonville, Ill., discussed dementia precox, katatonia, hebephrenia, hysterical excitement, etc., and said that the family physician must recognize early these important mental disorders and co-operate with the alienist in treatment. Prompt and energetic treatment is imperative.

Insanity in Relation to Obstetrics and Gynecology.

DR. HENRY F. LEWIS, Chicago, stated that there is no true puerperal insanity. Normal pregnancy and even normal menstruation are not devoid of certain eccentricities of temper, tastes, appetites, or even morals. Some degree of mental instability must pre-exist if the eccentricities are to be exaggerated into insanity. One can only grant to child-bearing an exciting causal relation. The predisposing instability of mind, often largely hereditary (traceable in three-fourths of the cases) await some awakening impulse in an acute physical or psychic disturbance, which may be furnished by disorders of the genital organs in the performance of their normal functions. Evidence from autopsies and gynecologic examinations of insane women by a large number of authorities show the presence of noticeable pelvic disease in about 25 per cent. A considerable number of gynecologists have operated on insane women at asylums for their genital lesions and have secured a gratifying percentage of cures and instances of improvement. Ovarian lesions seem to influence the mental state the most, uterine next, and vaginal the least. Neoplasms are the least prone of all the pathologic conditions to cause mental disorder.

Newer Conceptions of the Management of Bright's Disease.

DR. ALFRED C. CROFTAN, Chicago, considers Bright's disease as a cardio-vascular disorder of manifold origin, involving primarily the heart and arteries, secondarily those organs chiefly supplied by end arteries, namely, the brain, the retina and the kidneys. The degeneration of the kidneys therefore, is a very common and important, but not a determining, feature of the disease. Bright's disease in early stages not infrequently occurs without renal involvement. Primary nephritis with the retention of excrementitious bodies may occasionally be a cause of the cardio-vascular changes. This sequence of events,

however, is relatively rare. The management of Bright's disease should be directed toward the prevention or removal of factors operative to affect the heart and arteries. The treatment of the nephritis is incidental, but important. He discussed the rest cure of the kidneys, diet (dangers of exclusive milk feeding) and hygiene and medicinal treatment on the basis of the above conceptions.

DR. CHANNING W. BARRETT'S paper, "The Mortality of Appendicitis," and Dr. G. W. McCaskey's paper, "Infections of Intestinal Origin," will be published in full in THE JOURNAL.

The following papers were likewise read and discussed:

"Plastic Surgery of the Urethra," by Dr. G. Frank Lydston, Chicago; "Causation and Radical Cure of Quinsy," by Dr. John F. Barnhill, Indianapolis; "Cranial Injuries," by Dr. Shelby C. Carson, Greensboro, Ala.; "Internal Hemorrhoids and Their Treatment," by Dr. Wells Teachnor, Columbus, Ohio; "A Case of Bilateral Tic Douloureux Treated by Removal of the Right Gasserian Ganglion and the Left Inferior Dental Nerve," by Dr. W. O. Bullock, Lexington, Ky.; "Hernia of the Tube," by Dr. Frank T. Andrews, Chicago; "Pseudo-Membranous Croup," by Dr. R. E. Carlton, Latonia, Ky.; "Bacteriology and Immunity; What It Is; What It Teaches; What It Does Not Teach," by Dr. R. E. Haughton, Richmond, Ind.; "Two Etiologic Factors in Pelvic Diseases in Women, Their Prevalence and Prevention," by Dr. J. H. Firestone, Freeport, Ill.; "Prognosis," by Dr. John M. Batten, Downington, Pa.; "Foreign Bodies in the Esophagus," by Dr. Carl E. Black, Jacksonville, Ill.; "Operative Work in the Ureter," by Dr. Bransford Lewis, St. Louis; "Foreign Bodies in the Cornea," by Dr. Dudley S. Reynolds, Louisville, Ky.; "Etiology of Ectopic Gestation," by Dr. H. B. R. McCall, Kansas City, Mo.; "Brain Abscess of Otitic Origin," by Dr. George F. Keiper, Lafayette, Ind.

BUFFALO ACADEMY OF MEDICINE.

Regular Meeting, held Oct. 4, 1904.

The President, Dr. Arthur W. Hurd, in the Chair.

Gallstones.

DR. JOHN PARMENTER spoke of conditions which simulate gallstones. He referred to the similarity of gall bladder and the appendix in the symptoms disease of either gives and the similarity in treatment of these affections. Gallstones may often be detected by holding the phonendoscope over the gall bladder and hearing crepitation. They may also be suspected if when holding the fingers under the ninth costal cartilage and then having the patient take a deep breath there is much tenderness and rigidity. Again, the gallstone may be found in the stool.

Dr. Parmenter said that there are three cardinal symptoms: 1, pain; 2, nausea and vomiting; 3, tenderness. Superadded to these there may be: 4, jaundice; 5, temperature; 6, tumor.

The pain is due either to distension from accumulated bile behind the stone lodged in the duct or in the gall bladder, or to an inflamed area. It varies according to the virulence of the attack, position of the stone, and the temperament of the person attacked. Its character is colicky; it is intermittent, but, unlike other pains in this locality, does not cease entirely. There is a spasm of the overlying muscles and parts which is visible to the eye and can be felt accompanying the pain. The position of the pain is the ninth costal cartilage and often also beneath the angle of the right scapula. Rarely, according to Murphy, may its seat also be on the left side (one case in ten). Pain is not necessarily present in chronic obstruction in the ducts. It may last from a few minutes to a few days. Nausea and vomiting, which arise reflexly, are important signs if present with other symptoms, but of themselves may, of course, arise from many other conditions. Dr. Parmenter believes that tumors do not occur nearly so often as is claimed. He has frequently found that such an apparent tumor of the gall bladder disappears under anesthesia (phantom tumor). This is due to a relaxation of the parts, and sometimes the stone may be passed following anesthesia. The tenderness varies according to the individual character of the disease and method of examination. The parts should be palpated carefully. Jaundice is a very inconstant symptom. It is the exception rather than the rule, especially if the stone is in the gall bladder or cystic duct, and when present it is intermittent, whereas the jaundice of chronic obstruction (cancer, stricture of duct, etc.), is constant, and where it persists it points to obstruction in the common or hepatic ducts. Jaundice due to gallstone is preceded by other symptoms of that condition and there are no changes in general health accompanying it, such as the great loss of appetite and cachexia noted in malignancy.

There may or may not be any temperature. It is not marked unless the infection is in the common duct. If the temperature is not above 101 degrees it points to the location of the stone in the cystic duct or gall bladder. The tumor varies also as to the infection and at times the bulk of the tumor is due to muscular spasm, not to an enlarged gall bladder. With gallstones the gall bladder is not so much enlarged; a dilated gall bladder argues for obstruction in the biliary passages from causes other than stone, such as malignant growth or stricture. The tumor, if present, moves with respiration.

The conditions which may simulate gallstone disease are: 1. Acute cholecystitis where no stone is present. 2. Renal calculus, in which the pain is lower, referred to testicles, and blood is often passed in the urine. 3. Plain colic from gas in the hepatic flexure of the colon; this pain is remittent. 4. Appendicitis: Because of pain in this region a child was operated on for appendicitis. The appendix was found normal, but the pain was due to a diaphragmatic pleurisy. 5. Acute intestinal obstruction. 6. Simple indigestion: This condition is, however, relieved by vomiting; more often gallstone colic is wrongly called a gastric indigestion. 7. Movable kidney, when torsion of the pedicle is present; in this condition the kidney can be replaced. Liver symptoms are lacking; urinary symptoms are present (frequent micturition, etc.). 8. Carcinoma: This may be preceded by gallstones; in this condition cachexia is present and there are signs of diffuse carcinomatosis. 9. Acute pancreatitis and cancer at the head of the pancreas. 10. There is a nervous hepatic colic described which is hysterical and strongly resembles gallstone colic; with this there is neither fever nor stones.

Biliary Drainage in Operative Work on the Gall Bladder.

DR. EUGENE A. SMITH said that, judging by his experience of 31 operative cases, biliary drainage in operations on the gall bladder and biliary tract is necessary in 90 per cent. of such operations. Gallstones were formerly considered the cause of chronic disease of the gall bladder and biliary ducts, as fecal concretions and other foreign bodies were supposed to cause appendicitis. Such diseases are due to infection and its continuation with exacerbations and periods of quiescence, and gallstones in the implanted gall bladder are an accompanying feature and a result of the infection. Acute pyogenic infections demand drainage to prevent suppurative cholangitis and hepatic abscess before gallstones can form. Typhoid and colon bacillary infection infrequently demand early operation, but later may require operation because of exacerbation or secondary infections with gallstones, which meanwhile have formed as a predisposing cause. Early operation for cholecystitis is urged to prevent alteration of structure and dangerous complications due to local peritonitis and adhesions beside disturbances of nearby viscera of associated digestive function—especially the pancreas. This view emphasizes the need of biliary drainage to dispose of the infectious bile and infecting agent in the tissues of the gall bladder and biliary ducts. Deaver's argument to prove that chronic biliary tract infection leads to biliary cirrhosis is good and biliary drainage is demanded for its relief. Of the operative methods to drain the biliary tract cholecystostomy is advocated, because it is safer and easier. Permanent biliary fistulæ reformation of calculi and later malignant degeneration of the gall bladder are possible, but too infrequent to affect the advantage of this operation over cholecystectomy. In cholecystectomy overlooked gallstones may cause trouble. Cholecystectomy with drainage of the cystic or common duct is indicated for cases of stricture of the cystic duct, distorted thickened gall bladder and malignancy of the gall bladder. Mayo's stripping of the mucosa is indicated for gangrenous exfoliation of the mucosa and empyema of the gall bladder. Cholecystectomy without drainage is indicated for gallstone colic when the history shows painful attacks without sepsis and when operation shows little or no infection of the biliary tract and when obstructive jaundice is absent. The

removal of gallstones with closure of the gall bladder and no drainage is ideal, but not practical and not satisfactory. Cholecystenterostomy or drainage into the intestine is performed for hopeless stricture or malignant growth obstruction in the common duct. Calomel unloads a torpid liver by the bowel. The knife is the calomel of the infected biliary tract and biliary drainage is the avenue of cure.

DISCUSSION.

DR. MARCEL HARTWIG emphasized the importance of very careful palpation in examining for tumors in the region of the gall bladder. He stated that he now has a case where the woman had lost weight, was jaundiced and had clay-colored stools. He performed a cholecystostomy, removing many stones, and could feel that there also existed a stricture of the common duct. The case still drains through the incised wound, but the patient feels much better. A secondary cholecystenterostomy will probably be made later. He also related a case with symptoms of hepatic abscess in which he made an exploratory puncture negatively a number of times, and postmortem the liver was found studded with miliary abscesses.

DR. HERMAN HAYD said that in many cases drainage is required because it is the only rational method to get rid of the trouble in the hepatic radicles and the cholangitis and congested liver with its tendency to cirrhosis as demonstrated by Deaver. In some cases such as a shriveled and distorted or acute gangrenous gall bladder, it should be removed. The method of drainage as described by Dr. Smith is simple, easily performed and to him has proven satisfactory. Concerning what Dr. Parmenter had said about the importance of pain and its character in biliary colic, one would believe that this would be all that was necessary to make a diagnosis, but many of these gallstone cases are extremely difficult to diagnose and those conditions which in his experience were most easily confounded with this condition are a tender floating kidney fixed forward, a cancer of the pyloric orifice of the stomach, duodenal ulcer and hysterical pains described by Charcot, which are associated with hysterical painful ovaries. This pain is felt in the epigastric region and a little to the right and is reflex or neurotic.

DR. CHARLES E. CONGDON uses the oblique incision for the operation, as he can get at the bladder or duct more readily and for drainage uses a smaller incision, closing the original incision and so overcoming a tendency to hernia. Through this smaller incision the tube is drawn and drainage takes place perfectly. If there is infection from the discharge it is more localized as when the drainage takes place through the larger opening.

SEVENTEENTH FRENCH CONGRESS OF SURGERY.

Held at Paris, Oct. 17-22, 1904.

Professor S. Pozzi in the Chair.

In his opening address Pozzi expatiated on the great responsibility of the surgeon aside from his operating. The surgeon summoned to operate for appendicitis should be able to correct the diagnosis at need and point out a mistakenly diagnosed liver or kidney colic, just as the physician should be able to detect, for instance, a hidden osteomyelitis, a typhoid of the limbs simulating true typhoid fever. He illustrated his idea by quoting the saying, "A cask full to the brim of nuts can yet hold several measures of oil." He referred to his recent trip to this country and his scientific pilgrimage to the private hospital of the Mayo brothers.

A number of foreign surgeons had been invited to speak, among them von Bergmann and Sonnenburg of Berlin, Ceccherelli of Parma, Fargas of Barcelona, Kocher of Berne, Mikuliez of Breslau, and Czerny of Heidelberg. An exhibition of surgical instruments and appliances was for the first time one of the features of the congress.

Decapsulation of the Kidney.

Ceccherelli related experimental and clinical experiences which demonstrate that decapsulation of the kidney is not at all a serious operation. The capsule is regenerated by the end of a month and adhesions form, numerous and strong. For this reason he supplements every nephrorrhaphy now with decapsulation, the adhesions insuring firm fixation. The vascular adhesions are liable to have a favorable effect in modifying certain pathologic conditions in the kidney.

Omentopexy.

Monprofit delivered the address on surgical treatment of liver cirrhosis. He has collected statistics of 224 operations, with 129 operative cures. Recurrence was noted in 25, and 26 patients were only materially improved, but 70 were completely cured; 8 have been lost sight of. The operative mortality was 37 per cent. A complete cure was obtained in about a third of all the cases. The statistics in future will be more encouraging, as intervention will not be limited to such desperate cases as in the past. Other members of the congress related their personal experiences, over 50 operations of the kind being thus marshaled, with satisfactory results in about half the number. Vidal reported that omentopexy has a very favorable action on hematemesis by reducing the portal hypertension. His experience has been so encouraging in this line that he regards severe hematemesis as the essential indication for the intervention. The ascites may recur, but the hemorrhages are arrested.

Means of Avoiding Dangers of Chloroform.

Thiéry of Paris expressed surprise that more extensive use is not made of tracheotomy followed by insufflation in cases of threatened chloroform death. In 23 cases the subjects were resuscitated and the 3 failures were due to defective technic.

Castration in Treatment of Inoperable Mammary Cancer.

Reynés of Marseilles was able to realize the apparent complete cure by utero-ovarian castration of a young nullipara with inoperable cancer of both breasts, menstruating normally. The neoplasms have entirely retrogressed, all but one small nodule in the place of the former extensive ulcerations. Eighteen months have passed since. In another case the castration proved useless. This patient was a iv-para, 39 years old, who had nursed her children for more than a year each. The cancer was a malignant process in a milk-producing breast; the patient had not menstruated for nearly two years. Thiéry also reported the complete retrogression of inoperable recurring double mammary cancer in a woman at present in good health a year after the operation.

Cancer and Its Treatment.

One session was devoted to this question, Tuffier urging that a distinction should be made between cancers of the skin, those of the mucosæ and deep-lying cancers. Those of the skin seem to be the only ones amenable to radiotherapy, and not all of these. Czerny stated that radium possesses the property of decomposing lecithin in the tissues. As cancer tissue is particularly rich in lecithin, this may be the clue to its mode of action. Doyen reported that he had treated 242 cases of cancer with his fluid derived from cultures of the micrococcus neoformans which he had isolated from cancers. Of the total 242 cases 42 have been permanently cured, 46 are under treatment but promise a cure. In 128 cases no result was apparent, either because treatment was commenced too late or had been interrupted. Six patients have died from accidental causes after recovery. He asserts that this micrococcus is able to create any variety of neoplasm according to the nature of the tissue primarily infected. Poirier commented on Doyen's statements, remarking that no one but Doyen has been able to discover this micrococcus, and Folet suggested the nomination of a commission to pass final judgment on the Doyen method of treatment of cancer. This session was rather sensational on account of the Doyen-Crocker controversy, mentioned on page 1320. The *Gazette Médicale Belge* comments on the affair that "if Mr. Crocker had consulted his family physician he would have been told that Doyen is a genius as a surgeon, but he is also a shrewd business man and an actor, always hatching out some audacious project. Mr. Crocker would have been advised to demand to see the cured patients." Our latest Paris exchanges contain full reports of the congress, and the English also devote some space to the Doyen cancer serum.

Travel Notes.

XVI.

CEYLON.

FROM AUSTRALIA TO CEYLON—ISLAND OF CEYLON, ITS CLIMATE, PEOPLE, DISEASES—COLOMBO GENERAL CIVIL HOSPITAL—CEYLON MEDICAL COLLEGE—CEYLON LEPER COLONY—LEPER BUDDHIST CELEBRATION —KANDY GENERAL CIVIC HOSPITAL.

NICHOLAS SENN, M.D.
CHICAGO.

MADRAS, INDIA, Aug. 30, 1904.

The voyage from Adelaide to Colombo takes fourteen days. I left Adelaide August 11 and arrived at Colombo on the 24th, a little ahead of the stipulated time. The only rough weather we encountered was for four days in crossing the great Australian Bight, a part of the ocean that has an unenviable reputation with people who are subject to seasickness. Our good, stanch, storm-tried ship, the *China*, played with the foam-crested waves by a graceful combination of rolling and pitching which, unavoidable and well intented, brought about the usual result—reversion of the peristaltic action of the stomach—in a fair percentage of cases among the small number of passengers. It seemed to me, however, that the Australian and English people are, on the whole, less susceptible to seasickness than the more nervous Americans, and a number of the lady passengers always occupied their places at the table during meal-time. A few hours' stop was made at Fremantle, which gave me an opportunity to see this important western port of Australia and from there make an excursion by rail to Perth, 12 miles distant. Perth is a new and modern city with 25,000 inhabitants. The activity in the principal streets reminds one very much, at least on a small scale, of State Street in Chicago. The business importance of both of these western Australian cities depends largely on the rich gold mines in that section of the country. Fremantle has a public hospital with accommodations for 40 patients; the hospital at Perth is a new and modern building with a capacity for 200 patients. As we left the harbor of Fremantle we were followed by our faithful escort of albatrosses, which had never deserted us in the open ocean since we left the New Zealand coast, but on this occasion these magnificent living kites of the air left us at dusk the first day out, never to return. With the exception of occasional schools of flying fish, water and air were sterile from coast to coast. Cool weather continued for two days after leaving Fremantle, when the winds gradually subsided, the sun displayed his tropical properties and the drizzling rains saturated the atmosphere with moisture, all of which made the heat very oppressive. Blankets and heavy clothing were laid aside and the officers set the example for the wearing of clothes appropriate for the tropics. The low palm-fringed coast of Ceylon, lightly veiled in a rising fog, came in sight Wednesday morning and during the forenoon we were comfortably quartered at the Grand Oriental Hotel, Colombo.

CEYLON.

The island of Ceylon, called Singhala by the natives, is about 55 miles from the southern extremity of Hindustan, from which it is separated by Palk Strait. It lies between 5° and 9° N. latitude, hence in the very midst of the tropics. The interior is mountainous, the highest peaks being Pedral Allagalla and Adams' Peak; the former rises to an altitude of 8,200 feet, the latter 7,420 feet. The island is noted for its tropical forests, impenetrable jungles and luxurious vegetation. This island has had an eventful political history. It was taken possession of by the Portuguese in the seventeenth century, passed later into the hands of the Dutch by conquest, and was finally annexed to the British crown in 1795. The two first nations never conquered the entire island, and the British forces underwent many hardships and met with fierce opposition in the interior of the island before the last rebellion was suppressed in 1817. Since that time the peace of the island has never been disturbed and it has become, under a wise, conservative government, the wealthiest and most prosperous colony of the British empire. The principal articles of export are tea, coffee, cinnamon, cacao and cinchona bark. The cocoanut palm, which is found here in all its productiveness along the seashore, in the lowlands, valleys and high up on the hillside, not only furnishes the natives with a considerable part of their sustenance, but is an important source of revenue. The annual value of the produce of this tree alone amounts to $10,000,000. In looking at the palm forests of Ceylon no one could forget what this tree does for the untutored natives, as

> "It is meat, drink and clothes to us."—Rabelais.

And who would not think almost instinctively of the beautiful words of the psalmist:

> "The righteous shall flourish like the palm tree; he shall grow like a cedar in Lebanon."—Psalms xcii.:12.

Ceylon supplies the markets of the world with cinchona bark, amounting to about a million of pounds a year. The cinnamon tree is indigenous and reaches a height of from 40 to 60 feet and a circumference of from 3 to 6 feet. The cinnamon bark, however, is not obtained from the old trees, but from annual shoots from a very short stump, which is pruned and sprouts from year to year. Another important source of revenue are the more than 4,000 gem quarries. Ceylon has now more than 1,500 miles of railway, over 2,000 schools, 36 newspapers and upward of 100 hospitals and dispensaries. The Ceylon tea is the best in the world, and since it has been found that the hardy shrub which grows this commodity will thrive best at an altitude of 7,000 feet, the forests are rapidly making way for the tea industry up to an altitude of 6,000 feet. As an important protection against deforestation from this and the timber industry the government has very wisely stopped the sale of timber land above an altitude of more than 6,000 feet. Ceylon is the paradise for the hunter, as large herds of elephants still inhabit the jungles at a safe distance from human habitations and buffalo, elk, deer, bear and wild boar, as well as a great variety of birds, are quite plentiful and furnish the best opportunities for most interesting sport. The scientist finds here an endless field for study and investigation. The great fertility of the soil, the copious rains and the variations in the climatic conditions on different parts of the island have created a vegetation noted for its luxuriance and endless variety. The forest trees alone are a great attraction. We find here the satin, sandal and ebony trees, from which the most valuable timber is obtained. It may not be generally known that less than one-third of the wood of the ebony tree (*Diospyros ebenum*), is black, and this is found in the center of the stem; the outer two-thirds of the wood is white and without value. In the botanical garden at Kandy I saw an Indian rubber tree (*Ficus elastica*), planted by the Dutch in 1833, which has reached a height of 130 feet, and the multiple stems and their colossal branches cover a circular area where several hundred people could find protection against rain and sunshine at the same time and be much less crowded than in the streets of Kandy at a Buddhist celebration. In the same place I saw a nux vomica tree more than 50 feet high with a graceful crown of small elongated deep green leaves in a state of budding for the next year's crop of disc-like nuts so familiar to the physician as the source of strychnin. The botree (*Ficus religiosa*) is one of the giants of the forests. Its broad acuminate leaves tremble in the breeze like the leaves of our aspen. The trunk is very short and from the top the treelike branches form a wide-spreading crown. This tree is worshiped and is held in great veneration by the Buddhists. A very strange tree is what is known as the jack tree, a large tree which bears the largest edible fruit known. The fruit is suspended from the trunk and the larger branches by a short stalk. The edible part of the fruit is a yellow pulpy viscid mass. The smell and taste of the fruit when ripe are strong, and to the European unpleasant, but the flavor is akin to that of our may apple and quite agreeable, at least it proved so to me. The elephant is very fond of the leaves of this tree. The Areca palm, a very slender tree, grows a nut which bears in its structure a close resemblance to the nutmeg. This nut, scraped and mixed with a white paste made of slacked lime, served on a green leaf, is the betel so much in use by the natives as a chewing material. This practice is no worse from a hygienic

and esthetic standpoint than the chewing of gum and tobacco by Americans, but the betel contains a red coloring material and its habitués do not improve their looks by the red lips, tongue and teeth, which looks to the uninitiated very much as though the chewers, instead of enjoying the pastime, might be the subjects of purpura hemorrhagica, or had just escaped from the chair of an aggressive dentist. How helpless the practitioner of medicine would be if Ceylon did not supply him with cinchona and nux vomica, to say nothing of cloves, cinnamon, cajeput, pepper, nutmeg and other aromatics and carminatives with which we are in the habit of disguising the taste and smell of more powerful drugs and which often prove so efficacious in the treatment of slight gastrointestinal derangements. But there are still more remarkable trees in Ceylon, which prove the perfect foresight of the Creator in meeting urgent wants of man and beast. Wherever there are cocoa palms man's immediate wants are met, as it supplies him with drink and meat; the milk of the unripe fruit will quench his thirst and the meat of the ripe nut supplies him with food. The rain tree (*Inga sausa*) is a large tree with thick, short stems and widely-spreading branches. Around the lake of Kandy these trees are of enormous size. It has a pinnatifid leaf like the acacia. In the evening these leaflets fold themselves into a small cup, in which the falling dew is collected and retained until sunrise, when it unfolds, and in doing so the thousands of drops of water give rise to a shower on a small scale, hence the name "rain tree."

Ceylon is the home of a great variety of palms. Of these the talipot palm is one of the most remarkable. For the first ten years it grows only from scaped leaves. Next the stem grows as straight as a mast to a height of 100 feet. Each annual growth is indicated by a ring. The fan-shaped leaves are of enormous size, sometimes 15 feet in radius. They are so large that three leaves make an ample and waterproof tent. The leaf, cut into pieces of convenient size, has been used for centuries as a substitute for writing paper.

In the octagonal tower of the Temple of the Tooth at Kandy thousands of manuscript volumes record the early history of India on strips of the leaves of this palm. When the tree reaches maturity it develops a gigantic bud at the end of a pole-like prolongation projecting 10 to 15 feet above the crown of fronds. This bud in due time bursts with a report and a lovely white blossom unfolds itself and spreads with a pyramid of cream-colored flowers. After this final act of propagating its species the tree soon sickens and dies. It was my fortune to see one of these trees a very short time after bursting of its pod and expansion of the liberated flowers. The undergrowth in forest and jungle is represented by a variety of shrubs, the principal one being the *nulu*.

The density of the forest is increased by twining plants, many of which, especially the Thunbergia, with its beautiful pale blue flowers, reach to the very tops of the highest trees. Orchids, pitcher plants, the gorgeous passion flower and several species of rhododendrons are worthy representatives of the rich flora of the island.

CLIMATE.

When Nature goes to work to create a botanic garden she must necessarily have at her disposal a fertile soil and a hot, moist climate, a climate congenial to luxurious vegetation but hostile to man. Such is the climate of Ceylon. The intensity of the heat is made almost intolerable during the rainy season, from February to July, by the saturation of the air with moisture. When I arrived at Colombo the rainy season was practically over and yet the atmosphere was so surcharged with moisture that in the absence of a breeze, natural or artificially produced by fan or punkah, breathing was a difficulty and the sense of heat distressing, although the thermometer in the shade only showed a temperature of 92 degrees F. The coolest months are October, November, December and January, and the hottest correspond with our spring months. In Colombo it is always hot and the use of blankets is almost unknown. The continuous heat from one end of the year to the other is depressing and Europeans find it necessary to seek a cooler climate every three or four years to recuperate, and have to abstain from hard work, mental and physical, as much as possible during their entire residence. In the mountains at an elevation of 2,000 and more feet the nights are cool, and even at Kandy, 1,600 feet above the level of the sea, the nights are often chilly. The chains of mountains traversing the island have a marked influence on the rainfall and temperature of the high latitudes. It is often the case that on one side of the range it is sultry and fogs and rain prevail, while on the opposite side the atmosphere is dry and cool and a bright sunshine adds to the cheerfulness of the bracing mountain climate, with a reversal of climatic conditions occurring with a change of the prevailing winds. It is well known that a prolonged residence in Ceylon shortens the lives of the Europeans, and consequently those who are obliged to live there find themselves under the necessity of leaving the island every few years for several months in order to rid themselves of that lassitude and depression incident to a prolonged residence in the tropics and to regain their recuperative power that is so essential in resisting the insidious influences of tropical and other diseases.

THE PEOPLE.

The population in 1891 was 3,008,466. The natives are increasing very rapidly, as the estimated population of the island on Dec. 31, 1902, was 3,685,267. This is confirmed by the birth and death rate for the same year; 141,893 births were registered and 99,680 deaths. The birth rate was 39.0, against 37.5, and the death rate of 27.4 against 27.6 per mille in the previous year on the estimated population in the middle of the year (Medical Report of Dr. Allan Perry, principal civil medical officer and inspector general of hospitals, 1902). This record is not in accord with the fate of our Indians and the Polynesians of the islands of the Pacific, whose rapid decimation and eventual extermination followed so promptly the footsteps of civilization. Three explanations deserve consideration in accounting for this difference. The Ceylonese have for centuries been in touch with the outside world by much frequented waterways and they have, perhaps more than any other primitive race, retained more persistently their original habits, and as most of them are Buddhists they have escaped the fearful consequences of alcoholism so common among other savage races as soon as the white man satisfies their morbid desire for liquor. The Singhalese and Tamil do not encumber themselves with European clothes; the comboy (loin cloth) is the only article of dress which he makes use of, and which continues to satisfy all his needs as far as appearance and protection are concerned. The diet, habits and manner of living remain the same. The population of Ceylon is a very mixed one, consisting of Singhalese, Tamil, Portuguese, Dutch, Malays, Parsees, Turks, Afghans and half-castes of all shades of color between almost pure white and jet black. The Singhalese and Tamils, however, form the bulk of the population. The Europeans are in a very small minority. The Tamils are the Indian coolies who immigrated from the southwestern part of India and became the laborers of the planters in the interior uplands of the island. The Singhalese are averse to hard labor and have always shown a preference for the plains and valleys. The Tamils are a low race, far beneath the Singhalese in intelligence. The Singhalese is proud of his race. Half-castes bear the humiliation brought on them by the admixture of European blood with a becoming patience and fortitude, but they regard the accident of their birth rather as a disadvantage than otherwise in their social position and best possibilities in life. The question of caste, even in Ceylon, plays quite an important rôle, consequently the Singhalese and Tamil seldom intermarry. The former is a gentleman by birth, and as such is averse to menial work, for which, if he can afford it, he hires the man of burden, the lowly-born Indian coolie, who in most respects resembles the low-caste Chinese and Japanese. The Singhalese is a very fine specimen of manhood, tall, slender, with long, very thin legs, face clean cut with regular outlines, well shaped nose, high forehead, black eyes, bushy eyebrows of the same color, delicate hands, and in complexion varies from a sienna to almost as black as the negro. The hair is long and straight or wavy and is worn by combing it back or parting it in the middle, tied behind into a knot, which

is surmounted by a semicircular comb of tortoise shell. The manner of wearing the hair and the delicate face in the young men with scanty beard and similarity in dress makes it often very difficult to distinguish between the two sexes before advancing age draws more distinct facial lines. The young men appear very effeminate, more so than in any other race that I have ever seen. Tailors and shoemakers do very little business in Ceylon. With a few yards of cloth men and women drape themselves very gracefully, leaving at least one-half of the body uncovered. The comboys differ only in length from a narrow strip of cloth to a petticoat reaching below the knees, worn by some men and all the women. Another two or three yards thrown over the left shoulder covers at least a part of the chest and leaves the right arm unencumbered. Hair and skin are kept saturated with palm oil, a very important hygienic measure, as it preserves the hair and protects the skin against the burning rays of the sun, rain and insects. The Singhalese are almost free from baldness, as they do not injure the nutrition of the hair follicles by the use of harmful head-dress and make free use of palm oil, which is undoubtedly an important nutrient to the hair and the hair follicles. The women are much smaller than the men and can make no pretensions to beauty. The flush of youth begins to decline before they are 30 years old, and then they are inclined to obesity. They are fond of jewelry. Many of them cling to nose and ear rings, toe rings, wristlets, anklets and arm bands of silver. The Singhalese has many excellent qualities; he is cheerful, content, honest and peaceable. Theft and robbery are almost unknown. Willful premeditated murder is very rare. During the year 1903 36 men were sentenced to death for murder and of these 22 were hanged; in the other cases the sentence of death was commuted to long terms of imprisonment. Major de Wilton, inspector of police (Prison Report, 1903), makes the following comments on the crime of murder: "It is very difficult to make any conjecture as to the cause of the prevalence of the crime of murder. The offenders do not, as has been repeatedly pointed out, belong to the criminal class. They are, as a rule, men without previous convictions, who up to the time of the crime have led a comparatively blameless life. The offense is not generally committed with the deliberation of the hardened criminal, but in the fiery heat of passion or under the influence of liquor, and it is a matter of regret that even the death penalty brings with it no direct effect."

The knife is the implement most frequently used when violence is resorted to. The number of persons committed to prison for all kinds of offenses during the year 1903 was 2,396, a figure which shows well for the morale of the island. Of 2,508 convictions during the year 1903 49 were Protestants, 361 Roman Catholics, 1,509 Buddhists, 314 Hindoos, 260 Mohammedans; other religions, 15. Notwithstanding the heroic labors of missionaries of different denominations for the last two centuries and the expenditure of millions in efforts to convert the natives, the results have been very unsatisfactory. The mass of the people cling to their Buddhist faith with great tenacity. The bareheaded, barefoot yellow-robed priests remain in power and attend to the spiritual needs of the people. The Roman Catholic church has accomplished more than any other denomination. Those who have abandoned Buddhism and have joined a church do not always live in accordance with the teachings of the new religion and continue many of their former customs and practices, which perhaps unconsciously cling to them from force of habit. For instance, Christianity has made very little impression on the morality of the people. The natives are a temperate people, as the teachings of Buddha prohibit the use of alcohol in any form, and with few exceptions, indeed, the Buddhists are total abstainers. The Singhalese have taken kindly to the professions. The most prominent and successful physicians and lawyers in Ceylon are natives or half-castes.

PREVAILING DISEASES.

The bubonic plague has never had a foothold in Ceylon. This is the more remarkable, as its harbors are visited daily by ships from all Oriental ports and the exemption from this scourge must be due to the extraordinary care exercised by the department of health. Accurate information regarding the present prevailing diseases can be gleaned from the Annual Report of Dr. Allan Perry, principal medical officer of the island.

Malaria.—In the western, central and north central provinces malarial fevers were very slight. The disease is most prevalent in the northwestern and eastern provinces. The disease is quite prevalent in Colombo and observations are now being made to determine the places where infection takes place.

Cholera.—During the year 1902, according to this report, there were 179 cases of cholera, with 116 deaths. The largest number of cases occurred in Colombo and vicinity.

Smallpox.—There were 146 cases of this disease, with 25 deaths, in the north of the island, and 118 cases were admitted to the Infectious Diseases Hospital, Kanatta, which, with two from another province, made 120, with 32 deaths.

Dysentery.—This disease is equally distributed throughout the island. It was most prevalent in the central and western provinces. The largest number treated in any one institution was at the General Hospital, Colombo, where 488 cases were admitted, of whom 89 died.

Enteric Fever.—The number of cases treated in the various hospitals throughout the island was 242, with 63 deaths. Pollution of water and milk are the commonest causes of this disease. The cesspit system, which exists in some of the large towns, notably Colombo, Kandy and Galle, has much influence in increasing the number of cases

Leprosy.—The total number of cases reported during the year 1902 was 560, against 590 in the previous year, being a decrease of 30 cases; 382 cases were treated in the leper asylum, Hendala, and 30 in the Kalmunai wards. The leper ordinance came into operation at the beginning of the year, and 113 cases have been reported.

Ankylostomiasis.—It seems that this disease, which is so very prevalent, is constantly being introduced from India by Malabar coolies. The disease is increasing. There were 1,609 admissions in all hospitals, with 257 deaths. The danger of the disease to life is in the profound anemia, which so lowers the vitality that the victim is carried off by any insignificant intercurrent affection.

Plague.—The Plague Committee is a standing committee, including besides the principal civil medical officer, the collector of customs of the ports, the government agent and the mayor of Colombo. Regular meetings are held and precautions instituted to combat an outbreak of the disease. All returns of plague from infected ports are received by the committee; telegraphic accounts of plague occurring in places adjacent to Ceylon are received regularly. It is to the eternal watchfulness of this committee and the prompt action of the staff of port surgeons that is due the freedom of the island from this Asiatic disease. Galle continues to be the plague port; only one case of this disease was reported from the harbor of Colombo during the year. The patient contracted the disease at Hongkong and was landed and isolated at Galle, and the contacts for this port were placed in quarantine. The patient recovered. Rat destruction was carried out at the customs premises and by the municipalities of Colombo and Galle.

Syphilis.—Colombo, Kandy and Galle are provided with a special hospital for the treatment of women suffering from venereal diseases. The total number of new cases admitted was 351 which, with 20 remaining from the previous year, makes a total of 371. Of the 371 women treated in these hospitals 27 were affected with primary syphilis, 68 secondary, 62 tertiary, 4 hereditary, 156 gonorrhea and 54 unclassified syphilitic lesions.

Parangi.—The hospital records show that this disease has steadily increased during the last five years. The death rate is remarkably small; out of 3,434 admissions for this disease during the year there were only 10 deaths.

Vaccination.—Vaccination is carried out vigorously in the

island, as is shown by the Report on Sanitation. During the year 149,901 subjects were vaccinated; of this number 7,760 were revaccinations.

Lack of Sewerage.—In Colombo, Kandy and Galle the fecal matter is removed at night and buried. In Colombo the experiment was made of using the contents of the cesspits as a fertilizer, but it proved undesirable and was abandoned as a failure. What these cities need is a system of sewerage, as they all have an excellent location to carry out such a plan with success.

(To be continued.)

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Chlorosis.

The *Medical Times* suggests the following treatment for this condition: Iron is recommended as being the chief drug indicated. It should be begun within a few days after the diagnosis is made. It may be necessary at first to correct digestive disturbances. Iron sometimes can not be taken by the stomach, and in these cases the ammonium citrate may be given hypodermically in one-grain doses dissolved in ten minims of distilled water. Inject it very slowly and deeply into the back, where the pain from the injection will be comparatively slight. Of the other forms of iron many are recommended. If an organic preparation is given and it does not help the patient it is well to change and give an inorganic one, e. g., iron filing or iron reduced by hydrogen or saccharated carbonate or sulphate; one of the best is the protochlorid, which is a French preparation. On the theory that every preparation of iron is changed to the protochlorid this preparation would seem to be especially valuable.

Clark, believing that the disease is due to constipation, gave as a laxative:

R.	Ferri sulphatis	gr. iv-v	25-0.30
	Magnesii sulphatis	ʒi	4
	Acidi sulphurici, dil.	m. x	65

With a little tincture of ginger or infusion of quassia. Or he gave sulphate of iron, bicarbonate of soda and sulphate of soda, the vehicle being chloroform water. Clark had these two prescriptions; he had his acid mixture and his alkaline mixture, and apparently he could not know, until he tried, which one of them would agree. So he tried one, and if it failed, tried the other, and if neither agreed with the patient he came back to Blaud's pill, which is the best thing after all.

Hemorrhage from Hemorrhoids.

The *Journal des Practiciens* states that the simplest remedy for such hemorrhage is an enema of very hot or very cold water, to which has been added 5 per cent. of alum. The following prescription may also be added:

R.	Benzoini	gr. xv	1
	Aluminis	gr. xxx	2
	Aquæ Pagliari	ʒv	20

M. Sig.: Tablespoonful to a pint of hot or cold water as an enema.

The styptic liquid of Pagliari is made by boiling for six hours, 8 ounces of tincture of benzoin (containing about 2 ounces of the balsam), 1 pound of alum and 10 pounds of water, in a glazed earthen vessel, stirring constantly and adding hot water from time to time to supply the loss by evaporation. The liquid is then strained and kept in well-stoppered bottles. Cracked ice in a bag of goldbeaters' skin may be introduced into the anus. A valuable hot injection is:

R.	Acidi carbolici	gr. ivss	30
	Glycerini	ʒss 6	25
	Aquæ ebullitæ	ʒviiss	225

M. For an enema.

The following prescription has also been used:

R.	Ext. suprarenalis (1-1,000)	m. l	3 08
	Aquæ dest.	ʒss	15

M. Sig.: Saturate a cotton tampon with this solution and place in the rectum for ten minutes. It should then be replaced by a tampon powdered with antipyrin or iodoform.

R.	Cocainæ hydrochloratis	gr. 9/20	03
	Ext. suprarenalis (1-1,000)	m. xxx	2
	Petrolati	ʒss	16

M. Sig.: Use a small quantity by rectum.

A suppository that has proved serviceable is:

R.	Cocainæ hydrochloratis	gr. 3/20	01
	Ext. suprarenalis (1-1,000)	m. v	30
	Olei theobromatis et ceræ, q. s. ad.		

M. For one suppository.

A more elaborate formula is:

R.	Ext. suprarenalis (1-1,000)	m. v	30
	Antipyrin Salol, ää	gr. iii ¾	25
	Ext. belladonnæ	gr. 3/20	01
	Olei theobromatis et ceræ, q. s. ad.		

M. For one suppository.

Suppositories, however, may bring on defecation and subsequent hemorrhages. Gelatin must be carefully sterilized before using, in 5 to 10 per cent. solutions in water. Hypodermic injections may be used of a combination of gelatin, 25 to 1,000 of water, and sodium chlorid, 7 to 1,000. Calcium chlorid may be given internally:

R.	Calci chloridi	ʒi	4
	Inf. citri acidæ florum	ʒiv	120
	Syrupi	ʒi	30

M. Tablespoonful every hour.

As an enema calcium chlorid may be administered once or twice daily in the proportion of 60 grains to one quart of water. The pressure should be mild.

Sycosis.

Hall, in the *Clinical Journal*, discusses this condition and gives the following treatment, which he states has been most successful in his hands. All authorities are agreed that sycosis is difficult to treat and requires a long time to entirely disappear.

SHAVING.

Authorities likewise disagree in respect to close shaving of the face. Some favor the removal of infected hairs by epilation and keeping the beard cropped with scissors. The author agrees with others who favor close shaving. He says: "For my part I am convinced that proper treatment consists primarily in constant close shaving. On the regularity with which this is done each day will largely depend the success of the treatment. On this point I have no hesitation in speaking strongly, and since adopting this method of treatment some years ago I have not seen a single case in which improvement has not quickly taken place." The close shaving will have to be kept up regularly for months, and it is best to advise the patient to do his own shaving. Barbers, as a rule, will only shave under protest a patient suffering from this disease. Sharp razors are essential. Two at least must be available. Very hot water, prolonged lathering and previous oiling of the face help to soften the beard.

LOCAL APPLICATIONS.

A boracic acid lint fomentation is applied over the whole chin and cheeks, covered with gutta percha tissue, and kept on by means of a handkerchief carried round and tied to the top of the head. This is worn every night for many weeks. In the daytime the ordinary compound calamin lotion:

R.	Calaminæ Zinci oxidid, ää	ʒi	30
	Glycerini	ʒii	8
	Lotio plumbi et opii	ʒss	15
	Aq. rosæ, q. s. ad.	ʒiv	120

Later, when the greater part of the inflammation has subsided, it will be found that pustules keep arising here and there, and the patient should be advised to pull out the hair with a pair of fine tweezers before shaving in the morning and to apply a little white precipitate ointment or biniodid of mercury in spirits on a pointed match stick in the follicle. Some patients may find the calamin paste too drying for the skin, in which case some simple ointment may be applied after shaving, such as Ung. glycerini plumbi subacetatis or a dusting powder of zinc oxid and starch, preceded by an ordinary bay rum spirit lotion. This method of treating must be varied according to the individual needs. Great stress is laid by the author on the persistence in shaving.

The following are also recommended for sycosis: After the crusts have been softened with oil and removed, the hair should be closely cut and epilation of loosened hairs practiced daily.

R.	Resorcini	℥i	4
	Glycerini	℥ii	8
	Ung. aquæ rosæ, q. s. ad	℥ii	60

M. Sig.: Apply several times a day.

Also:

R.	Acidi salicylici	℥i	4
	Ung. picis liquidæ	℥i	4
	Petrolati mollis, q. s. ad	℥i	30

M. Sig.: Apply several times a day.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1904.

Massachusetts.

Gives Hospital Ambulances Right of Way.—Chapter 161 of the Acts of Massachusetts of 1904 provides that hospital ambulances shall have the same right of way which fire engines or police patrol wagons now have in the streets of all cities and towns.

Care of Infected Poor.—Chapter 395 of the Acts of Massachusetts of 1904 provides that the State Board of Charity may, if found expedient, remove any person who is infected with a disease dangerous to the public health and who is maintained or liable to be maintained by the commonwealth, to any hospital provided for state paupers, or may provide such place of reception for such person as is judged best for his accommodation and the safety of the public, which place shall be subject to the regulations of the board, and may remove such person thereto. Any expense incurred may be paid from the annual appropriation for expenses in connection with smallpox and other diseases dangerous to the public health.

New Jersey.

Free Diphtheria Antitoxin.—Chapter 232 of the Laws of New Jersey of 1904 provides that, whereas, diphtheria antitoxin has become of vital importance in the treatment and prevention of diphtheria; but, whereas, by reason of its cost, it is impracticable to use it to any great extent; therefore, the State Board of Health shall contract with some responsible manufacturer to supply free of charge, on the certificate of the attending physician, to such indigent patients as shall require it, such antitoxin as may be necessary for their proper relief, at a cost not exceeding $4,000 per annum.

Prohibits Selling or Prescribing Cocain.—Chapter 76 of the Laws of New Jersey of 1904 provides that no person shall knowingly sell, furnish or give away any cocain, or any patent or proprietary remedy containing cocain, except on the prescription of a registered practicing physician, dentist or veterinarian in his own practice; nor shall any such prescription be refilled; nor shall any physician or dentist prescribe cocain, or any patent or proprietary remedy containing cocain, for any person known to be a habitual user of cocain; provided that the provisions of this act shall not apply to persons engaged in the wholesale drug trade, regularly selling cocain to persons engaged in the retail drug trade.

Forbids Marriage of Epileptics, Etc.—Chapter 137 of the Laws of New Jersey of 1904 provides that it shall be unlawful hereafter for any person who has been confined in any public asylum or institution as an epileptic or insane or feeble-minded patient, to marry in New Jersey, without a certificate from two regularly licensed physicians of the state that such person has been completely cured of such insanity, epilepsy or feeble mind, and that there is no probability that such person will transmit any of such defects or disabilities to the issue of such marriage; any person of sound mind who shall marry with any such epileptic, insane or feeble-minded person, with knowledge of his or her disability, or who shall advise, aid or assist in procuring any marriage contrary to the provisions of this act, shall be guilty of a misdemeanor.

As to Distributing Medicine and Circulars.—Chapter 88 of the Laws of New Jersey of 1904 provides that it shall be lawful for the common council or other governing body of any city, town, township, borough, etc., by ordinance, to regulate and prohibit the distribution or leaving on the public streets, highways, public places, or on private property, or in any private place within any such municipality, any medicine, medicinal preparation or preparation represented to cure ailments or diseases of the body or mind, or any samples thereof, or any advertisements or circulars relating thereto; provided, however, that such municipality shall not be authorized to prohibit a delivery of any such article by handing the same to any person above 12 years of age willing to receive the same. Any such municipality may provide for a penalty of $50 for any violation.

New York.

Appropriation for Antitoxins and Investigations.—Chapter 728 of the Laws of New York of 1904 making appropriations for the support of the state government appropriates for necessary expenditures for the manufacture and standardization of tetanus, streptococcus and diphtheria antitoxin, and for further investigations of serum therapy in tuberculosis, typhoid fever and kindred diseases, $14,000, or so much thereof as may be necessary.

Virginia.

Restricts Location of Pest Houses.—Chapter 179 of the Acts of Assembly of Virginia of 1904 provides that it shall be unlawful for the council or board of health of any city or town, or the board of supervisors or the board of health of any county, to establish, locate or maintain any hospital or pest house for patients suffering from smallpox, yellow fever or cholera within fifty yards of any street, public road, public park, or public cemetery, in any city, town or county, nor shall any such pest house be *hereafter* established within 150 yards of any public road, etc.

Provision for Inspection of Laborers.—Chapter 186 of the Acts of Assembly of Virginia of 1904 provides: Whereas, There are prevalent throughout many sections of the state smallpox and other contagious diseases, by reasons of collecting large bodies of laborers without proper medical inspection or attention thefore, Be it enacted that any person, firm, or corporation employing large bodies of laborers in Virginia constructing works of public improvement, shall, unless said firm, etc., has its own physician for that purpose, be required to have a regular inspection by the board of health of the counties in which the laborers are employed at such times as the board of health may determine. And the said firm, etc., shall pay to the physician designated to make such inspection by the board of health of said county $10 for such inspection; in the discretion of the examining officer the laborers shall be vaccinated at the expense of said firm, etc., the said obligation of $10 and cost of vaccination to have the force and effect of a fee bill of an officer and be collected by the sheriff as any such fee bills may be collected.

Authorizes New Procedure in Rape Cases.—Chapter 18 of the Acts of Assembly of Virginia of 1904 provides that before or during the trial of an indictment for rape, or attempted rape, in which the female who is alleged to have been assaulted is a witness, the judge of the court in which the same is tried may, in his discretion, direct that the deposition of such witness be

taken at a time and place designated in said order. Such deposition shall be taken by said judge, by the clerk, or by any officer authorized to take depositions in the presence of said judge, who shall rule on all questions of evidence, and otherwise control the taking of the same as though it were being taken in open court; and there shall be present also the attorney for the commonwealth, as well as the accused and his attorneys, who shall have the same rights in regard to the examinations of such witness as if she were testifying in open court; and no other person shall be present unless expressly permitted by the judge. Such deposition shall be read to the jury at the time such witness might have testified if such deposition had not been taken, and shall be considered by them, and shall have the same force and effect as though such testimony had been given orally in court. But the clerk of the court, in case no appeal is taken, shall, after the time for granting a writ of error has elapsed, withdraw the deposition from the record of the case and destroy the same.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

October 29.

1 The Domain of Physiology and Its Relations to Medicine. S. J. Meltzer.
2 *Observations on Latent and Masked Malarial Infections with an Analysis of 395 Cases. C. F. Craig.
3 *Is Not the Treatment of Congenital Clubfoot Begun Too Early? A Plea for Infantile Hygiene and Feeding. V. P. Gibney.
4 *Angina Pectoris. John Knott.
5 Modern Medicine. Wm. B. Ulrich.

2. **Masked Malarial Infections.**—Craig emphasizes the importance of a blood examination as a routine measure in every case of disease, because in that way only is it possible to discover these cases of malaria that closely simulate other conditions.

3. **Treatment of Congenital Club Foot.**—Gibney cites a number of cases that were treated while the patient was still of a tender age and which show that the results obtained were far from being perfect. The long course of treatment to which nearly all cases of congenital club foot must be subjected leads him to question the propriety of beginning treatment before the child is ready to walk. He advises that the treatment be deferred until after such time when the problems of infant feeding and hygiene have been solved. He feels that excoriations, the strained tendons and ligaments, must surely inhibit digestion, and if digestion is inhibited nutrition can not proceed to our satisfaction. During the first 18 months of life, Gibney says his contention has been along the lines of mitigating the severe forms of treatment. It is known to all orthopedic surgeons, as well as to many general practitioners, that a certain number of cases of club foot of moderately high degree are corrected, fully 80 per cent. or 90 per cent., by the mother's hand alone. In such cases physicians are called in to supplement this good work by simpler forms of apparatus. The mother can be taught to apply a side splint with a soft roller bandage reinforced by a strip of rubber adhesive plaster, and this can be removed as often as she has time for manipulation and stretching and unrolling. The medical man in attendance can give her the necessary instructions, and it is safe to say that the "worrying of the child" will not be carried to the extent of inhibiting digestion and, as a corollary, nutrition. Gibney regards the feeding and the hygiene as supreme, and that a congenital club foot, to be cured, must be treated by mechanical as well as operative means immediately after birth. He also emphasizes that the weight-bearing function is a very important factor in the treatment of the deformity.

4. **Angina Pectoris.**—Knott's paper is a very extensive review of this subject, historical and clinical, containing a great number of citations from several prominent writers, especially with reference to its etiology and pathogenesis. Nothing new is presented.

Medical Record, New York.

October 29.

6 *Surgical Reflections on the Diagnosis of Cancer of the Stomach. A. G. Gerster.
7 *Conditions Simulating and Mistaken for Acute Appendicitis. H. Roth.
8 Some Random Considerations on Tuberculosis. A. A. Eshner.
9 *Sterile Water Anesthesia in the Operative Treatment of Anorectal Disease. S. G. Gant.
10 *The Rôle of the Prostate in Affections of the Urinary Tract. A. L. Wolbarst.
11 *Music as a Therapeutic Agent. F. S. Kennedy.

6. **Diagnosis of Cancer of the Stomach.**—Gerster urges that what the practitioner needs is a recognition and sound interpretation of the symptoms to be observed during the initial stages of the disorder, by the aid of which the surgeons may be enabled to take the active measures at a time when the inherent conditions are still, and in an overwhelmingly hopeful manner, favoring curative success. We are confronted, however, by the dilemma that if we wait until the diagnosis is reasonably certain, especially if we delay until a palpable tumor exists, it is too late to expect cure from operation. A reliable diagnosis of cancer of the stomach in the incipient stage, in which it is susceptible of successful operative treatment, is with our present knowledge a sheer impossibility, and therefore we must make up our minds to submit the patient to the risk of an operation before the diagnosis is firmly established. The author concludes that when in a clearly progressive case of an intractable disorder of the stomach the local and general symptoms, conscientiously collected and weighed, strongly justify the suspicion of cancer, diagnostic laparotomy should be considered not only admissible, but obligatory.

7. **Conditions Simulating Acute Appendicitis.**—H. Roth gives in detail the histories of nine cases in which inflammation of the appendicular region was simulated by various other conditions, such as cholecystitis, intermittent hydronephrosis, intussusception, two cases of inflammatory disease of the uterine adnexa, ovarian cyst with twisted pedicle causing general peritonitis, a prevesical and a preperitoneal abscess, and pneumonia.

9. **Sterile Water Anesthesia in Rectal Operations.**—Gant describes the excellent results he has had in substituting plain sterile water for cocain and other solutions that are in vogue for the production of local anesthesia. The method has been found of such value that the author has been able by its means to operate on most rectal cases without a general anesthetic or sending them to a hospital, circumstances much appreciated, especially by the better class of patients. Anesthesia apparently is produced merely by the pressure of the fluid on the nerve terminals in the tissues, and sufficient water should be introduced thoroughly to distend the tissues, causing them to become anemic and assume a glassy, whitish appearance, when anesthesia immediately follows. This distension does not require a large amount of water, from 10 minims to half a dram only being necessary for small hemorrhoidal tumors, and from one-half to four drams in more extensive operations. In introducing the water it is not necessary to use more force than is usually employed in making the ordinary hypodermic injection. In conclusion, he states that, while anesthesia by the injection of sterile water is not effective and can not be applied in all major operations, he has employed it, to the exclusion of general and local medicinal anesthetics, in nearly all of his operations on the rectum (for hemorrhoids, fistula, fissures, etc.), and with such gratifying results that he would heartily recommend its thorough trial by other surgeons for operations in the anorectal and other regions of the body.

10. **Prostate in Affections of the Urinary Tract.**—Wolbarst discusses the anatomic and functional peculiarities of the prostate, which give it a double rôle, for, although a sexual organ in health, in disease it is essentially a urinary organ. The author's conclusions are summed up as follows: Urinary symptoms are most often directly due to prostatic disease. Any pathologic lesion of the prostate which increases its size favors interference with the urinary stream to a greater or lesser degree. Inflammation of the prostate is always accompanied by urinary symptoms. The genital symptoms are least marked. In reference to gonorrhea, the prostatic urethra is the most important portion of the urinary tract; it is the favorite seat of

chronic urethritis; it is the way by which the inflammation travels from the urinary to the genital tract. The prostate is solely responsible for the important urinary conditions which result as a consequence of its senile hypertrophy. Prostatic concretions may lodge in the bladder and act as the nucleus of larger vesical calculi. Chronic contracture of the bladder neck, neuralgia of the prostatic urethra, prostatic tuberculosis, malignant prostatic disease, prostatic cysts and trauma of the organ, are all made evident by their effect on the urinary function. Lastly, the numerous urinary effections justify the consideration of the prostate as a urinary organ, second only to the kidneys in importance.

11. **Music as a Therapeutic Agent.**—Kennedy says that much assistance is in many instances to be derived from the intelligent use of music, either vocal or instrumental, as a therapeutic adjunct. Melancholia, insomnia, hysteria, family affliction, business reverses, delirium, pain, fatigue, mental or physical, will all be helped by the beneficial influence of music, rightly used. As a postoperative measure it would have an undoubted influence for good in taking the patient's mind from his bodily distress. So also could "painless" dentistry be relieved of some of its pain and distress by the quieting influence of music, which would, as has been amply demonstrated, produce a pleasanter mental influence during the administration of nitrous oxid or other anesthetic. A German writer recently stated that in a number of test cases in which music was provided during the administration of the anesthetic, there was an absence of distress and resistance an the part of the patient; also an absence or reduction of the postoperative nausea under the same circumstances. To be advantageous the nature of the composition must be carefully selected with a view to the needs of the individual case, and the execution must be as nearly faultless as possible.

Medical News, New York.

October 29.

12 *The Treatment of Scarlet Fever with the Moser Antistreptococcus Serum. H. L. K. Shaw.
13 *Osteoplastic Gastrotomy for Impermeable Cicatrical Stricture of the Esophagus. W. Meyer.
14 The Etiology of Gastric Hemorrhage. F. G. Connell.
15 A Series of Nearly Six Hundred Spasms in an Epileptic Without Disturbance of Consciousness in the Intervals. L. Newmark.
16 The Agnes Memorial Sanatorium. A Description of a Sanatorium for the Treatment of Pulmonary Tuberculosis Built by Mr. L. C. Phipps at Denver, Colo. C. E. Edson and W. H. Bergtold.

12. **Moser Antistreptococcus Serum in Scarlet Fever.**—The method of preparation and the use of Moser's serum are described by Shaw. Up to the present time Moser has isolated nearly thirty different types of streptococci, bouillon cultures of which, taken directly from the patient, are injected into horses, so that the serum is a true polyvalent one. The subcutaneous injections are given for over a week in gradually increasing doses. It takes from seven to nine months to produce a suitable serum. When sufficiently cogent, the serum, in a dilution of 1 to 250,000, should agglutinate these streptococci. The serum is generally employed in only the very severe cases, those having symptoms of general intoxication, and in the lethal cases. It is injected, in doses of 200 c.c., subcutaneously in the abdomen. Results are noticed within a few hours. There is a marked improvement in the general condition of the child, all the symptoms of toxemia rapidly disappearing. Sequelæ and complications are less frequent, and when they do occur they are less severe. No fatal case of nephritis has occurred in any of the injected cases. During a period of three and one-half years 1,069 cases of scarlet fever were admitted to the Anna Children's Hospital of Vienna, 228 of which received the serum. The mortality for four years before the serum treatment averaged 14.5 per cent., and for the four years since its employment the mortality averaged 8 per cent. For the same period, in other hospitals in Vienna, where the serum was not used, the mortality averaged 13.1 per cent. The only unpleasant result following the use of this serum is the serum exanthem. This is accompanied by fever, and while it is not dangerous, it makes the children very uncomfortable. The younger the child the more pronounced are the symptoms, and the smaller the quantity of serum injected the less apt is the exanthem to follow. Serum sickness followed the injection in 73 per cent. of the cases. Moser injected 10 c.c. of the serum as a prophylactic measure in 14 children, and of these four came down with the disease. The attacks in all these cases were lighter than the ones to which they were exposed. Twenty-five children, who were exposed in a hospital ward, received a prophylactic dose and not one contracted the disease. The fact that the serum is prepared only at the Vienna Serum Institute, and is not on the market, has necessarily limited its use.

13. **Osteoplastic Gastrotomy for Stricture of the Esophagus.**—Meyer reports the case of a boy, aged 14, who swallowed a large quantity of caustic lye by mistake. One month later a gastrotomy and division of the stricture by Abbe's string method was done. The patient remained in the hospital about a year, a bougie being introduced every few days and left in the esophagus for from 24 to 48 hours. But in spite of all that was done the stricture re-formed at the end of the year and a gastric fistula, according to Witzel's method, had to be established. The boy was fed through the fistula for seven years. The stricture was then absolutely impermeable. The electric cystoscope, introduced through the gastric fistula, failed to reveal the cardia. Examination with the Rochester cystoscope and with a long urethroendoscope likewise proved futile. All efforts at passing the stricture failing, Meyer resolved to raise the left border of the ribs by means of an osteoplastic operation, as recently described by Marwedel. He did not, however, succeed in re-establishing the patency of the esophagus and the osteoplastic flap was fitted back in its former place and sutured. Feeding through the gastric fistula was resumed, the patient improvnig steadily in general health. Meyer expects to repeat his efforts at some later time.

The Boston Medical and Surgical Journal.

October 27.

17 Hematuria Due to the Bilharzia Hematobia, with the Report of a Case. R. F. O'Neil.
18 *Some Observations of the Occurrence of Broadbent's Sign. A. W. Tallant.
19 *The Mamma, Its Physiologic Purposes. T. H. Manley.

18. **Broadbent's Sign.**—According to Tallant, retractions in the left back are much more common than is generally supposed, although it is probable that they would be noted more frequently if always looked for during the routine physical examination. Systolic retraction of a marked degree, similar to and often identical with that described by Broadbent, is found in many cases of cardiac hypertrophy in which there is no other reason to suspect pericardial adhesions. Systolic retraction, more often involving the interspaces only, may be seen in the left back in thin individuals, especially if there is marked emaciation. The reason for many of these retractions would seem to be as follows: Since the pericardium is even under normal conditions adherent to the central tendon of the diaphragm, it is conceivable that with each systole there is a slight pull on the diaphragm. Under ordinary circumstances this is not marked enough to be transmitted to the points of attachment of the diaphragm to the chest wall, but if the heart is hypertrophied or is acting very vigorously, the pull may be sufficient to be visible externally, while in a thin individual even a slight movement would be more easily perceived.

19. See abstract in THE JOURNAL, October 29, page 1327.

St. Louis Medical Review.

October 26.

20 The Tunica Mucosa Ureteris (ureteral mucosa). B. Robinson.
21 Exposure of a Portion of the Temporal Lobe of the Brain Following Atrophy of the Petro-Mastoid Bone from Cholesteatoma. J. C. Buckwalter.

Cincinnati Lancet-Clinic.

October 29.

22 Nasal Therapy. J. A. Thompson.
23 Cholecystotomy. B. Merrill Ricketts.

Annals of Ophthalmology, St. Louis.

October.

24 Pigment Streaks in Macular Region of Both Eyes. J. E. Jennings.
25 The Precise Measurement of the Primary and Secondary Deviation in Paralysis, with Remarks on the Regular Occurrence of Secondary Deviations in Congenital Paralysis. Alexander Duane.
26 Injuries of the Iris, with Report of a Case of Iridodialysis in Which There Was a Complete Reattachment of the Iris. E. O. Sisson.

27 Pseudoneuroepithelioma of the Retina with Increased Intraocular Tension. James M. Ball.
28 The Reception of Medical Discoveries. George M. Gould.
29 *Haab's Giant Magnet the Best Means to Extract from the Vitreous Steel or Iron Which Entered Through the Cornea. N. J. Weill.
30 Microcornea Without Microphthalmos. H. B. Young.
31 The Education of the Blind, with Special Reference to the Use of the Moon Alphabet. Robert C. Moon.
32 A Case of Unilateral Retinitis Pigmentosa. Robert C. Moon.
33 Details of a Scheme for the Subjective Measurement of the Pupil. Clinton T. Cooke.
34 The Question of Cycloplegia and Latent Hypermetropia. David DeBeck.
35 Myopia in Marksmen. Harold G. Goldberg.
36 A Case of Traumatic Bitemporal Hemianopsia with Hemianopic Pupillary Reaction. O. Lange.

29. **Haab's Giant Magnet.**—The ease with which the Haab magnet attracts from the vitreous, without injury to the crystalline lens, splinters of iron or steel, into the anterior chamber, from which location they are easily removed, prompts Weill to cite a few examples. He says that there is no danger of the magnet attracting too forcibly, since the strength of the magnet can be regulated with a rheostatic arrangement. In all cases it is well to administer the mydriatic frequently during the two hours preceding the operation, so as to dilate the pupil to its maximum in order that the iris shall not interfere with the passage of the splinter into or from the anterior chamber. When the steel in the eye is anterior to the vitreous, the corneal route is the natural one for its extraction and, if possible, this should be accomplished without the entry of any portion of the instrument into the anterior chamber. Those cases where the splinter enters the vitreous via the sclera, in which there is promise of some vision, should invariably be extracted with the giant magnet around the lens and through the cornea. In the first case cited, a small pyramidal splinter pierced the cornea and iris without injury to the lens and lodged in the vitreous. Five days after the receipt of the injury the splinter was extracted. The giant magnet guided it forward around the lens, where it caught in the pupillary portion of the iris, although the pupil was dilated ad maximum. An iridectomy was done and the splinter extracted. In the second case an exceedingly small splinter, which had penetrated the crystalline lens and had lodged in the vitreous, was extracted two days after the receipt of the injury. The vision in both cases is improving.

The Laryngoscope, St. Louis.

October.

37 *Relations of Laryngology, Rhinology and Otology with Other Arts and Sciences. Felix Semon.
38 *The Etiology and Diagnosis of Ozena and Its Relation to Pulmonary Tuberculosis. Clement F. Theisen.
39 Medical Treatment of Laryngeal Tuberculosis, with Special Reference to the Use of Formalin. L. B. Lockard.
40 Report of Two Cases of Laryngeal Tuberculosis Operated on by Thyrotomy. Otto J. Stein.
41 *The Prognosis of Laryngeal Tuberculosis. Robert Levy.
42 Pharyngocele, or Diverticulum of the Pharynx. Wm. D. Black.
43 Congenital Bony Atresia of the Posterior Nares; Operation; Partial Result. W. Scott Franklin.
44 Purulent Otitis Media Complicating Typhoid Fever. E. W. Day and Chevalier Jackson.

37.—This article appeared elsewhere. See THE JOURNAL, October 15, p. 1177.

38. **Ozena and Pulmonary Tuberculosis.**—Theisen considers the etiology and diagnosis of ozena and also the relation of this disease to the etiology of pulmonary tuberculosis. Forty cases of ozena are recorded, 14 of which had pulmonary tuberculosis, 2 of them being also complicated by a laryngeal tuberculosis. Tubercle bacilli were found in the sputum of 9 cases, and physical signs were present in all the cases, so positively in the remaining 5 that a sputum examination was deemed unnecessary. Five of the 14 patients died while under Theisen's observation. He believes that this is more than a coincidence; in fact, points to an etiologic relationship. When it is considered that in ozena the normal functions of the nose are interfered with, it can readily be understood how a tendency to tuberculosis may be established. Normal nasal mucus has bactericidal properties. In ozena there is no normal nasal mucus. All inspired substances cling to the thick tenacious crusts, which are so characteristic of ozena and which in many cases consist of nothing more than dried pus from the accessory sinuses in which bacilli find a perfect culture medium and may later be carried to the throat and lungs.

41. **Prognosis of Laryngeal Tuberculosis.**—Levy maintains that all cases of laryngeal tuberculosis are not hopeless, but that early recognition of a primary lesion or secondary complication is essential to a favorable termination. The patient's environment, his ability to rest his voice, suitable hygienic and climatic conditions also are necessary to a favorable outcome. On the other hand, Levy cautions that one cure should not cause too much optimism. The prognosis of laryngeal tuberculosis depends very largely on an understanding of its nature, its varieties and its stages. Disturbances of phonation are due to infiltration, to ulceration, or both combined. In many cases the voice may be much improved. In extreme infiltration, where improvement may not be obtained, the process does not necessarily go on to ulceration or cause general decline. Intralaryngeal lesions improve more rapidly than those situated on the epiglottis or ary-epiglottidean folds. Disturbances of deglutition may be due to swelling without pain, or to pain, namely, dysphagia or odynophagia, and here the character of the lesion influences the prognosis. Laryngeal tuberculosis materially influences pulmonary and general symptoms, although in some cases, it may possess no bearing on the general course of the disease. The course of pulmonary invasion always markedly affects the laryngeal complication.

Archives of Pediatrics, New York.

October.

45* An Investigation of the Influence of Laboratory Feeding on 216 Infants with Diseases of the Gastroenteric Tract, with Special Reference to the Weight Index. Maynard Ladd.
46 Acute Otitis in Children; a Study of 51 Operative Cases in Private Practice. Charles G. Kerley.
47 A Cure of Chronic Nephritis Following Renal Decapsulation. Augustus Caillé.
48 The Influence of Sugar on Fermentations in Milk and Milk Curds. H. L. Russell.
49 *The Rachitic Hand. Henry Koplik.

45. **Influence of Laboratory Feeding on Infants.**—Ladd studied the influence of laboratory feeding on 216 infants with diseases of the gastroenteric tract, the great majority of which were cases of fermental diarrhea and ileocolitis. The acute cases were ill on the average, 17 days, and the chronic cases 3.2 months before they were brought to the clinic for treatment. They were kept on the laboratory milk for periods varying from one to 31 weeks. As an aid in comparing the influence of the feeding on infants at different ages and stages of development, the nutrition of each infant at the beginning and at the end of treatment was judged by the estimation of its weight development. This was calculated from the weight index, which is simply the ratio of the weight of a given infant to the weight of the average normal infant of the same age. Judged by this standard, over 50 per cent. of the cases had a weight development of only from 40 to 70 per cent. when first seen. As a result of the treatment the series is divided into four groups: Group 1.—Cases which maintained or increased their weight index while on laboratory milk and entirely recovered from the acute gastric and intestinal symptoms for which they were brought to the clinic. This group comprised 109 cases or 50.4 per cent. The group, as a whole, gained 8 per cent. in weight index or a maximum average gain per week of 156 grams from the lowest weight reached during treatment. Group 2.—Cases which showed a loss in the weight indices and yet recovered from their acute gastric and intestinal symptoms and showed material gains in weight. This group includes 58 cases, or 26.8 per cent. The maximum average gain per week from the lowest weight reached was 94 grams. This group received treatment on the average for only 5.9 weeks, as compared with 8.5 weeks in Group 1. Group 3.—Cases which for the most part recovered from the acute gastric and intestinal symptoms while under treatment, but whose weight was not materially increased. This group includes 37 cases, or 17.2 per cent. The average length of treatment was 3.7 weeks; the loss in weight index 7.2 per cent., and the average loss in weight from the lowest point reached was 6.5 grams per week. Eleven cases in this group were "not improved" while under treatment. Of these 8 could not be traced, and some of them have died. Group 4.—The fatal cases. They were 12 in number, making a mortality of 5.6 per cent. in the series of 216 cases, the results of which were known the time treatment was stopped. All the

cases in the series were sick infants, and the results are not to be compared, says Ladd, with those obtained in the feeding of average healthy infants. The infants were fed on appropriate modifications of laboratory milk, usually beginning with very weak whey-cream mixtures. This milk was administered within twelve to eighteen hours after the first visit, and was gradually increased in strength. In half of the cases there was no initial loss in weight following this method; in 87 per cent. of the cases the initial loss was less than one-half pound (248 grams).

49. **The Rachitic Hand.**—Attention is called by Koplik to a peculiar manifestation of rachitis observed by him, one which might easily be mistaken for syphilitic disease of the bones, to which he has given the name of the "rachitic" hand. Most of the infants and children in whom he succeeded in demonstrating the rachitic hand suffered from marked rachitis accompanied by pain in the bones, to such an extent that one would be apt to think of syphilis. The phalanges of the fingers are thickened and bowed, at first glance giving one the impression that the hand was very fat. The fingers of the rachitic hand are longer and more tapering than is usual and this is probably due to a laxity of ligamentous structures of the joints or the phalanges. The distance between the extremities of the phalanges which make up the joints is greater in the rachitic than in the normal hand.

Dominion Medical Monthly, Toronto.

October.

50 *Pancreatic Inflammations in Their Relationship to Cholelithiasis and Their Treatment. A. W. Mayo Robson.
51 Some Cases Illustrating Difficulties in the Diagnosis and Treatment of Tumors. (To be continued.) Wm. Oldright.
52 *Tubercular Peritonitis. C. H. Mayo.

50. **Pancreatic Inflammations.**—Mayo Robson shows that recent clinical observations and operative experience prove that inflammatory affections of the pancreas or its ducts are very much more common than is generally supposed. In showing the frequency of pancreatitis, and the very serious nature of the acute, subacute and chronic varieties of the disease, Robson demonstrates that very much can be done for these patients by timely surgical intervention. Cases of pancreatitis due to gallstones may be prevented by timely interference, and that with barely 1 per cent. of risk. Gallstones may exist in the gall bladder without causing trouble, and without giving notice of their presence, but, as is well known, as soon as they pass into the cystic duct, or as soon as they begin to produce catarrh, they give evidence of their presence. If the concretions are removed in that stage there should be no mortality and, Robson continues, the operative treatment of cholelithiasis, undertaken before the onset of deep jaundice and infection of the bile and pancreatic ducts, with due care and in skillful hands, is almost devoid of danger. Furthermore, the early surgical treatment of gallstones will prevent the occurrence of many serious cases of pancreatitis that cause danger to life. This paper is an excellent résumé of modern knowledge of the subject of pancreatitis, but is so lengthy that we must refer our readers to the article itself, contenting ourselves with the few excerpts given above.

52. **Tubercular Peritonitis.**—After a brief review of the subject in general, Mayo discusses the treatment. He has practiced many of the methods in vogue at the particular time the operations were made, but as some cases required two or three operations and a few relapsed after apparent cure, and others were not cured at all, he was gradually led to search for the original lesion and remove it, leaving the peritoneal condition to cure itself, and closing the abdomen without drainage. The abdominal conditions always point to the source of disease by the congestion, increased matting of the miliary deposit, or increase of general adhesions. Of course, says Mayo, some cases must be refused operation, as their general condition is such as to render an operation extremely hazardous as well as futile. In males the incision is made over the appendiceal region, while in women it is so arranged as to explore the pelvis. A tubercular appendix at an early stage, before miliary deposits appear, may at times be diagnosed at operation by the large size of the glands of the mesenteriolum. The utmost care must be employed not to open the bowel in separating plastic adhesions of the intestine, as they are the most difficult fistulæ to close, and usually gradually exhaust the patient. As a rule, it is best to keep close to the parietal or pelvic peritoneum, separating as few adhesions as possible in exposing the region affected. In some cases of tubal infection the mass can be pierced and its entire contents of caseating débris removed, leaving the outer fibers and peritoneal layer in situ, then applying iodin or iodoform emulsion in glycerin to the diseased area and closing the abdomen without drainage. Of 59 operations for tubercular peritonitis by the older methods 42 were cured, 15 improved and 2 died. There were 58 operations for the removal of tubercular tubes, with 56 recoveries and 2 deaths, and 27 cases of tubercular appendicitis without a death.

American Journal of Medical Sciences, Philadelphia.

November.

53 Case of Dislocation of the Atlas, Shown by a Skiagraph, Causing Paralysis of the Left Arm and the Syringomyelic Dissociation Symptom on the Opposite Side. James Hendrie Lloyd.
54 Venereal Warts; Their Etiology, Pathology, Diagnosis and Treatment. C. W. G. Rohrer.
55 *Pneumococcus Endocarditis. Robert B. Preble.
56 *Contribution to the Study of Ulcerative Endocarditis. Montgomery H. Sicard.
57 Angioneurotic Edema. Report of Two Cases with the Histology of a Portion of the Gastric Mucosa Obtained by the Stomach Tube. Robert S. Morris.
58 Primary Carcinoma of the Duodenum. N. E. Brill.
59 *Pseudoleukemia Gastrointestinalis. H. Gideon Wells and Maria B. Mayer.
60 *Three Recent Cases of Croup Due to Staphylococcus and Requiring Tracheotomy. F. P. Anzinger.
61 A Study of the Group of Actinomyces. With the Report of a Pathogenic Species for Man. William Royal Stokes.
62 Associated Movements of the Head and Eyes in Infants. Samuel McC. Hamill and William C. Posey.
63 Study of a Case of Splenomyelogenous Leukemia. Alexander H. Peacock.
64 Two Cases of Weil's Disease Complicated by the Temporary Appearance of Small Tumors in the Liver. Max Einhorn.
65 Volumetric Determination of the Purin Bodies (Uric Acid and the Purin Bases) in Urine. J. Rudisch and K. Kleeberg.
66 The Vasometric Factor in the Clinical Measurement of the Blood Pressure. Albert Abrams.

55. **Pneumococcus Endocarditis.**—Preble's paper can be summarized as follows: Endocarditis complicates pneumonia in about 1 per cent. of all cases, and in 5 per cent. of the fatal cases. The pneumococcus may cause endocarditis of any degree of intensity, but in over three-fourths of the cases it is of the severe or so-called malignant type. The exudate is usually massive, but there is less disposition to ulceration and perforation of the valves than in endocarditis due to the streptococci and staphylococci. Endocarditis due to the pneumococcus comprised about 25 per cent. of all cases of bacterial endocarditis. The affection is much more often left than right-sided, but involvement of the tricuspid and pulmonary valves occurs about four times as often as it does with endocarditis in general. Aortic valves are attacked more often than the mitral. Infarcts occur in about one-half of the cases. Meningitis complicates the pneumococcus endocarditis in about 60 per cent. of the cases. The clinical picture of pneumococcus endocarditis does not differ from that due to any acute endocarditis. The complication may develop before, during or after the pulmonary involvement. A considerable number of cases show a period of normal temperature, usually three to four days and rarely longer than a week between the fever due to the pneumonia and that due to endocarditis. The pulse is usually rapid and irritable, but bradycardia is more frequent than in other forms of acute endocarditis. Subjective symptoms referable to the heart are usually absent, except in cases where there is an old heart lesion, when they are due to the old, rather than the recent endocarditis. Physical signs may be absent. Leucocytosis is frequently absent. Blood culture will usually show the pneumococci. The diagnosis is difficult, impossible, in fact, when the affection develops during the course of the pneumonia, but endocarditis should always be suspected in a case of pneumonia which is followed by an irregular temperature not sufficiently accounted for by some other complication, such as empyema. The prognosis is extremely grave, for 60 per cent. of the cases have a complicating meningitis, but it is probable that the percentage of recovery is higher than the reports so far published would lead one to infer. The

treatment consists merely in rest, absolute rest, with good, supporting food and stimulation, as required.

56. **Ulcerative Endocarditis.**—Sicard gives a short résumé of the history of ulcerative endocarditis, the pathologic anatomy of the disease and the etiologic factors, together with a short synopsis of 32 cases. Eight occurred coincidently with rheumatism, one apparently with a strain of the back accompanied by hematuria; 7 gave a history of old rheumatic attacks; 3 of having had scarlet fever or diphtheria; 2 of palpitation and dyspnea; 7 of typhoid fever, influenza or malaria; the remainder having apparently always been well. The disease is rare among young children. No cases have occurred in the children in the Presbyterian Hospital of New York during the last ten years. In the 32 cases reported, staphylococci were found in 4, micrococcus lanceolatus in 3, staphylococci and pneumococcus together in 1, and streptococcus in 2 cases. In 22 cases the blood cultures failed to give results and the diagnosis rested on pathologic findings or clinical signs. From an observation of these cases Sicard concludes that malignant endocarditis is a disease of bacterial origin; that it differs from simple acute endocarditis in the extent of endocardial inflammation and tissue necrosis; in the fact that the right heart is more often attacked; in the more frequent embolic processes which are septic in character. Micro-organisms are found in the blood during life, in the emboli and on the heart valves after death. There is nothing in the clinical appearance distinctive of any particular variety of germ causing them. Primary cases are rare, though they do exist. More cases accompany rheumatism, septicemia, the acute infectious diseases, or are engrafted on an old endocarditis. Almost all cases are fatal; those due to severe infection in a few days; the septic ones in a few weeks. The first variety have a leucocytosis of 15,000 or over, the latter usually below that number, some being very slight. Emboli and hemorrhages are of frequent occurrence, and may be fatal in their results. The urine usually shows evidence of nephritis; it may contain blood and pus from hemorrrhage or infarct. Treatment is usually unavailing, excepting the serum therapy, which is of uncertain value.

55. **Pseudoleukemia Gastrointestinalis.**—Wells and Maver report a case of pseudoleukemia which supports the conception that the infective agent, if such there be, might have entered by way of the tonsils, infected the cervical glands, and later became generalized throughout the body. In this instance, however, by far the most advanced manifestation of the disease was in the stomach, and next to the stomach the glands that receive its drainage. Although all the lymph glands were more or less enlarged, none compare with those about the stomach in size. Another peculiarity noted by the authors in reviewing over 200 autopsies in pseudoleukemia as reported in the literature, was that whereas in the universal enlargement of lymphatic tissue that of the alimentary canal usually participated little or not at all, yet when it does become involved to any extent, it is likely to happen that it is then involved much more in proportion than any of the other lymphatic tissue. These cases do not differ either clinically or etiologically from the ordinary cases, and anatomically the difference lies solely in the distribution of the lesions. Such cases stand particularly near the lymphosarcoma and the confusion in nomenclature of pseudoleukemia has added to the difficulty of distinction in many of the reported cases. Tuberculosis as a cause of Hodgkin's disease was negative in this case, inasmuch as animal inoculation as well as microscopic examination failed to demonstrate the presence of tubercle bacilli.

60. **Croup Due to Staphylococcus.**—Anzinger's cases were cases of preliminary sore throats in children, followed by severe obstructive symptoms in the larynx and requiring tracheotomy. In none of the cases was there evidence of a pseudomembrane. The clinical symptoms pointed to a local infectious process with the elaboration of toxins. In two of the cases the diagnosis of diphtheria was entertained, and antitoxin was given, but with negative result. Bacteriologic examination revealed the presence of practically pure cultures of staphylococci in the trachea and larynx. The organism in recent artificial cultures proved to be unusually pathogenic to white mice. Pathogenesis was displayed only by direct inoculation into the lymph or blood circulation. From an analysis of his investigations, Anzinger draws the following conclusions: 1. The winter epidemics of tonsillitis and sore throat in children at times give rise to laryngeal complications. 2. This condition is always serious owing to the ease with which the juvenile throat may be obstructed. 3. Individual predisposition to laryngeal complication is quite probable. 4. Staphylococcus, a common denizen of the throat, may, under favorable conditions, give rise to grave symptoms, as exemplified in the cases reported. 5. The rapidity of onset and severity of symptoms may at times suggest diphtheria. 6. A reliable bacteriologic examination of the throat is a prerequisite. 7. Antitoxin, although to be used in doubtful cases, will be of no service in cases in which the Klebs-Loeffler organism is not the causative factor. The failures of antitoxin are often credited to such cases. 9. A careful analysis should be made of each case, basing the diagnosis on both clinical and bacteriologic evidence.

Western Medical Review, Lincoln.

October.

67 *Case Simulating Abscess of the Liver. S. V. Beebe.
68 *A Simple Method for Gastroenterostomy, Ureteral and Intestinal Anastomosis. H. M. Hepperlen.
69 A Plea for Better Surgery in the Country. W. J. Pinkerton.
70 Burns of the Conjunctiva. J. W. Bullard.
71 What Relation Does Syphilis Bear to Abdominal and Pelvic Surgery? R. D. Mason.

67. **Case Simulating Abscess of the Liver.**—Beebe reports a case in which a collection of pus in the pleura immediately over the diaphragm burrowed through the latter into the liver, producing symptoms resembling those of abscess of the liver.

68. **Simple Method of Gastroenterostomy.**—Hepperlen makes use of a mechanical device, consisting of gelatin molded in size and form to meet the requirements for the different operations in which it may be used. It is made aseptic and of proper thickness and hardness to retain its shape 15 to 30 minutes, after which it is absorbed. When the gelatin support is placed in position, he inserts a few interrupted sutures through all the coats of the bowel to hold the parts in coaptation. He then completes the work by using a suture which is original with him. He uses a fine intestinal silk 24 inches long, double, with a needle on each end, having the knot where the silk is tied in the center. He starts his first suture under the mesentery attachment, inserting a needle with each hand, at the same time, through the two outside coats of the bowel, an eighth of an inch from the cut margins, picks up a loop about one-twelfth of an inch in length, draws the parts together and ties them at each stitch, continuing thus until he has completely encircled the bowel. The opening in the mesentery is closed with the same suture, care being taken to pass the needles under the small vessels in the peritoneal coat so as not to constrict the blood supply more than necessary. The gelatin device used for gastroenterostomies has a small flange molded on one end of the gelatin cylinder to hold it securely in the bowel where opened. This secures practically the same result obtained by the Murphy button, is as rapid, and is a much safer operation because there is no danger of retention of the device. For ureteral work he uses a small cylinder with an opening through the center, oval at each end. The technic of the operation is the same as described above.

St. Louis Medical Review.

October 22.

72 Observations on Cerebellar Tumors. Charles K. Mills.
73 Indications for Surgery in Injuries Involving the Cord. Harold N. Moyer.

Medical Bulletin, Philadelphia.

October.

74 Chorea in Pregnancy. John V. Shoemaker.
75 Compression of the Umbilical Cord. Ch. Mayrier.
76 Diseases of the Ear, Nose and Throat of School Children. E. B. Gleason.

St. Louis Courier of Medicine.

October.

77 Modern Treatment of Prostatic Hypertrophy with Obstruction. Arthur T. Cabot.
78 Climatology: Its Value to the Student and Practitioner of Medicine. S. E. Solly.

Kansas City Medical Index-Lancet.

October.

79 Carcinoma of the Intestine. C. B. Taylor.
80 Varicocele. Walter E. McKinley.

Denver Medical Times.

October.

81 Address, Rocky Mountain Interstate Medical Association. H. D. Niles.
82 The Obstetric Anatomy of the Fetus at Term. T. Mitchell Burns.
83 X-ray Treatment of Urethral Caruncle. G. H. Stover.
84 Charcot's Joints. Byron C. Leavitt.
85 Pernicious Anemia, with a Report of Cases. J. N. Hall.

Interstate Medical Journal, St. Louis.

October.

86 Recent Experiences in Gastroenterostomy, with Especial Reference to the Value of Discrimination in the Method to Be Used. Willard Bartlett.
87 The Treatment of Chronic Non-suppurative Otitis Media. M. A. Goldstein.

Louisville Monthly Journal of Medicine and Surgery.

October.

88 Sutures and Ligatures. A. M. Cartledge.
89 Diagnosis of Surgical Diseases of the Kidneys. John R. Wathen.
90 The Trained Nurse. William F. Barclay.

International Journal of Surgery, New York.

October.

91 Induction of Premature Labor. Henry C. Coe.
92 Gastric Ulcer. Its Clinical, Pathological and Surgical Phases. A. H. Cordier.
93 Melano-sarcoma of the Scrotum. B. D. Black.

Cleveland Medical Journal.

October.

94 John of Gaddesden, Variola and the Finsen Light Cure. H. E. Handerson.
95 Fluid in the Pleural Cavity Simulating Pneumonia. Charles F. Hoover.
96 Report of a Case of Salivary Calculus. C. E. Ford.
97 Report of Two Cases of Presenile Delusional Insanity. John D. O'Brien.
98 Report of Two Cases of Cerebrospinal Fever. M. J. Llehty.

New York State Journal of Medicine, New York.

October.

99 The Importance of Distinguishing Between Primary and Secondary Low Arterial Tension in the Treatment of Circulatory Disease. Louis F. Bishop.
100 Typhoid Fever. R. Sayre Harnden.
101 Treatment of Typhoid Fever. Asa G. Henry.

Iowa Medical Journal, Des Moines.

October 15.

102 The Relation of Childbearing to Insanity. Arthur S. Hamilton.
103 Abscess of the Brain. F. E. Walker.
104 A Case of Tetanus in Practice. Robert Robb.
105 Infected Wounds. Henry Wiedow.

Journal of the Mississippi State Medical Association, Vicksburg.

October.

106 Instinct an Important Factor in the Diagnosis and Treatment of Disease. T. J. Mitchell.
107 Scabies. J. C. Hall.
108 Obstetrics. B. L. Culley.
109 Enterocolitis. R. R. Wyatt.
110 Doctors' Nerves and Some Others. W. D. Hubbard.
111 Some Neuroses Resulting from Foreign Bodies in the Stomach. P. R. Brown.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 22.

1 *Discussion on the Treatment of Accidental Hemorrhage. A. Vernon Macan, A. L. Galabin and others.
2 *Discussion on the So-called Ovarian Pain; Its Causes and Treatment. G. E. Herman, F. B. Jessett, A. Rabagliati, W. E. Fothergill and others.
3 The Standpoint of Operation for Cancer of the Womb in Germany. Professor Olshausen.
4 Further Notes on the Treatment of Birth Paralysis of the Upper Extremity by Suture of the Fifth and Sixth Cervical Nerves. R. Kennedy.
5 Large Fibromyoma of the Left Ovary. J. S. Darling.
6 *Discussion on the Indications for Hysterectomy and the Methods for Performing It. J. Bland-Sutton, A. Doran, J. A. Shaw-Mackenzie and others.

1. **Treatment of Accidental Hemorrhage.**—Macan summarizes his paper as follows: In the absence of disease, all accidental hemorrhage has a natural tendency to stop. It commences as an internal hemorrhage, and many times ceases spontaneously without having been diagnosed, or, if so, only by finding old clots on the surface of the placenta postpartum. A large proportion of cases of so-called accidental hemorrhage is due to low insertion of the placenta. The diagnosis of this condition is difficult, and can not always be made with the finger. Hemorrhage from low insertion of the placenta is not likely to cause either internal or combined hemorrhage. Rupture of the circular sinus of the placenta gives symptoms that are very similar to those of internal or even combined hemorrhage. There are other factors besides want of tone in the uterine walls that tend to cause the hemorrhage to remain internal—for example, lessening of the first *vis a tergo;* the position of the first hemorrhage; its amount, and the firm adhesions around it. In the worst cases, where the cervix is long and the os rigid, it is (probably ?) necessary to deliver the woman immediately. Cesarean section, either vaginal or abdominal, is a better way of doing this than accouchement forcé. Less severe cases, when the cervix is long and the os rigid, should be treated by a properly applied vaginal tampon.

Uterine contraction may cause the hemorrhage to cease during the contraction, but not during the intervals, except indirectly as favoring thrombosis. Accidental hemorrhage is often due to uterine contractions—for example, after the sudden escape of excessive liquor amnii and after the birth of the first of twins. When the hemorrhage escapes from under the placenta, the tendency to further separation of the placenta is lessened, because the membranes (unless morbidly adherent) are more easily separated than the placenta. Rupturing the membranes must always cause a diminution in the intrauterine tension, and makes it more difficult to increase this tension by tamponing the vagina. Therefore, rupture of the membranes is not good treatment for ordinary cases of accidental hemorrhages, unless it causes rapid expulsion of the child. It is, however, a most efficient way of stopping accidental hemorrhage which is caused by a persistence of the bag of waters far into the second stage or by a low insertion of the placenta. The great danger in affecting delivery of the child *per vias naturales,* when the cervix is only partially dilated, is due to the difficulty there is in judging how much time is at our disposal to affect the dilatation. In tamponing the vagina and in the application of a tight binder and a firm perineal bandage we have a most efficient method of treating all but the worst cases of accidental hemorrhage, perhaps even these. Adhesions may stop internal accidental hemorrhage by causing localized increase of tension, but their presence can not be determined. If the original seat of the hemorrhage is at the very center of the placenta, the whole of the placenta will become detached; and if the placenta is situated exactly at the fundus, the membranes also will be all separated before the hemorrhage becomes external. Prolapse of the placenta depends on both these conditions being present. All cases of accidental hemorrhage should be reported, not the severe cases only, and the position of the rupture in the membranes carefully noted.

2. **"Ovarian" Pain.**—Herman states that he knows of no morbid change in a freely movable ovary that causes chronic pain. The so-called "chronic ovarian pain" is either a reflected pain due to some cause other than the ovary, or is due to neurasthenia, or is a manifestation of hysteria. It is not curable either by surgical treatment of the ovaries or by their removal. The only exception to this is the reflected pain of dysmenorrhea, which is cured when menstruation is stopped.

6. **Hysterectomy.**—In the course of a discussion on the indications for this operation, Bland-Sutton says that in suitable, carefully selected cases of cancer of the cervix uteri, the uterus is best removed by the vaginal route, as it enables the surgeon to excise the tissues about the cervix widely and to avoid the bladder, the ureters and the rectum. Out of 100 consecutive patients with cancer of the neck of the uterus, about 5 per cent. are favorable subjects for operation. The disease should be limited to the cervical tissues, and the broad ligaments should be free from any suspicion of infiltration. This must be determined with the patient fully anesthetized. The remote results of hysterectomy for cancer of the body of the uterus are very good when performed before the disease has perforated the uterine wall.

The best results are met with in the rarer instances in which the disease arises in a senile uterus. When it is absolutely necessary to remove the uterus for fibroids complicating pregnancy, it is usually to the patient's advantage to perform supravaginal hysterectomy. Under certain conditions, however, myomectomy, abdominal enucleation and hysterectomy are very useful measures. Panhysterectomy is as safe an operation as supravaginal hysterectomy; it is desirable in many cases to remove the whole cervix, but it is not necessary, says Bland-Sutton, to do this as a routine procedure. The reasons for these opinions are discussed by the author at great length.

The Lancet, London.

October 22.

7 An Address on "Wm. Hey: Medical Education." E. Owen.
8 *An Address on the Treatment of Lupus Vulgaris During the Last 25 Years. Malcolm Morris.
9 *The Physiologic Action of Ethyl Alcohol Considered as a Food; a Research. W. H. Goddard.
10 *The Value of Hetol in Pulmonary Tuberculosis. T. B. Heggs, M.D.
11 The Action Exerted on the Tubercle Bacillus by Human Blood Fluids, and the Elaboration of Protective Elements in the Human Organism in Response to Inoculations of a Tubercle Vaccine. A. E. Wright and Stewart R. Douglas.
12 *The Treatment of Pyopneumothorax. S. West, M.D.
13 Drainage of the Pericardium. H. S. Pendlebury.
14 The Action of the Venoms of Different Species of Poisonous Snakes on the Nervous System. George Lamb and Walter K. Hunter.

8. **Lupus Vulgaris.**—Morris gives a brief record of his experience of a quarter of a century in dealing with lupus vulgaris. In choosing a method of treating this affection, he says a number of things have to be taken into account. First, the seat of the disease; second, the extent; third, the type of the lesion and the stage of its evolution; fourth, the health of the patient. He has treated more than one thousand cases by various methods. In the large majority of the cases the treatment was so mixed that it is impossible to say how much of the result was due to one and how much to another agent. His experience, like that of every other dermatologist, has been that while small superficial patches are curable by almost any of the recognized methods, when the disease is at all extensive it often resists all kinds of treatment. As a rule, he uses chemical caustics only after the application of the light rays or cautery. In cases in which these agents are inapplicable, he employs salicylic or pyrogallic acid, or both together. Minute nodules may be bored with a solid stick of nitrate of silver. Acid nitrate of mercury is very effective, but if used freely produces an unnecessary amount of scarring and pain. Lactic acid he has found useful, at times, as an application to ulcerated surfaces. He believes that the galvanocautery is still the best method in cases in which the Finsen light or the *x*-rays can not be applied, especially when the areas to be treated are small. The cautery should be used at white heat, and care should be taken not to do much at one sitting, so as to avoid severe reaction. The scarification method he has practically abandoned. Volkmann's method of scraping has yielded excellent results in his hands. In some cases a single operation has effected a permanent cure. Of course, the method has its disadvantages. Excision is applicable when the patient has no time nor money to spare for the use of less vigorous but more tedious procedures. He has used the Finsen light method for four years and a half and arrives at the conclusion that phototherapy, while no more infallible than any other method, gives on the whole more satisfactory results. The *x*-rays are most useful in supplementing phototherapy. When the disease is extensive, the ground may be prepared with advantage for the light by the preliminary use of the *x*-rays. When mucous membranes are the seat of disease, the *x*-rays are more effectual than light. They are also of value as a palliative treatment. It must, however, be admitted, says Morris, that although the *x*-rays rapidly dry up discharge, heal ulceration, and disperse edema, they are of less use in eradicating the disease than is Finsen's method. Morris concludes his paper as follows: 1. It must be confessed that after every kind of treatment, whether used alone or in combination with others, recurrence is still very common. 2. As a general statement it may be laid down that small superficial quiescent patches are curable. 3. When the disease is of moderate extent and situated on the face, Finsen's method, either alone or combined with the application of the *x*-rays and supplemented by the use of caustics, is the most efficient method in regard to cosmetic effect and probably also in regard to permanency of result. The treatment, however, requires so much time that it is practically incompatible with the pursuit of any avocation needing close personal attention, and directly or indirectly it entails considerable expense. 4. If a rapid effect is desired, reliance must still be placed on gentle cautery, if the disease is on the face, and excision if it is on the limbs or the trunk, supplemented in the former case by salicylic acid, nitrate of silver, or other caustics. 5. Very extensive and severe cases in which the health is affected must be dealt with by the general methods used at the present day in the treatment of pulmonary tuberculosis.

9. **Alcohol as a Food.**—Goddard concludes that in small doses only, alcohol is most undoubtedly a food, but when large doses are taken about 50 per cent. of it is excreted from the system and it cannot, then, be considered a food in the proper sense of that term; and if still larger quantities be taken, it is more than probable that this contention would apply with even greater force.

10. **Hetol in Tuberculosis.**—Heggs cites seven cases in which hetol was administered intravenously. The technic and method employed were as follows: Thorough disinfection of the skin and sterilization of all instruments. Any sufficiently large veins of the arms were used. The method of graduated increase of dose on alternate days, as advised by Landerer, was followed. The maximum dose varied from 20 to 50 milligrammes, never getting any ill effects. In all the cases a definite leucocytosis was produced by each injection. As the result of his experiences, Heggs concludes that hetol, though not a specific, is a useful adjunct to any other treatment of tuberculosis.

12. **Treatment of Pyopneumothorax.**—The following general rules are laid down by West: 1. In the early stage when suffocation threatens, the air should be removed and the pressure relieved by paracentesis, repeated if necessary; if this is not sufficient, it is justifiable even to leave the side fully open rather than to lose the patient. 2. In the later stage, when effusion forms, its nature should be at once ascertained. 3. If the effusion is serous, the case should be treated on the general lines of serous effusion. 4. If it is purulent, immediate evacuation by free incision should be carried out. A piece of rib should not be excised, for it is rarely necessary. If it is necessary, no more should be removed than is required to get free drainage. 5. An aspirator should never be used in pneumothorax under any condition; it is unnecessary and dangerous.

Presse Médicale, Paris.

15 (No. 71.) Status of Radiotherapy. Kienböck. Abstract.
16 Hernie epigastrique, de la muqueuse de l'estomac. Adenot.
17 De l'emphysème pulmonaire. Malibran.
18 De l'angine, pseudo diphtérique maligne, à streptocoques et pneumocoques. G. Testevin and P. Busquet.
19 (No. 72.) Des hypersecretions multiples dans la paralysie générale progressive. E. Marandon de Montyel.
20 *Traitement des fistules stercorales consécutives aux hernies crurales étranglées et sphacelées. P. Delbet.
21 (No. 73.) *Du principle phosphoorganique des graines végétales. L'acide anhydrooxyméthylène-diphosphorique; son emploi therapeutique. A. Gilbert and A. Lippmann.
22 *Remarque sur le soi-disant "état naissant" en therapeutique (nascent state). D. Tommasi.
23 Table pour examens médico-chirurgicaux, voies urinaires et gynecologie. D. Estrabaut.
24 Théorie réflexe de la production des muco-membranes intestinales. M. Jouaust. Abstract.
25 (No. 74.) L'état dit "naissant" des substances employées en thérapeutique (nascent state). H. Labbé.
26 *L'acide phosphorique; son innocuité; ses principales indications en thérapeutique. F. Cantra.
27 Urethrotomie externe sans conducteur par la voie médiane lateralisée. L. Martel.
28 Conception du mot hysterie. Bernheim. Abstract.
29 (No. 75.) Hystérectomie abdominale totale pour fibromes. G. Roussel.
30 *Adipose douloureuse (maladie de dercum.) Delucq and Alaux.
31 *Sur l'anasarque dysentérique et la rètention des chlorures. P. Remlinger.
32 (No. 76.) La lèpre en France et dans ses colonies. E. Jeanselme.
33 Hémorragies gastro-intestinales du nouveau-ne. Lop.

34 (No. 77.) De la diminution brusque du poids à l'approche de la mort dans certaines infections aigues (preagonal loss of weight). Garnier and Sabaréanu.
35 Les dangers de contagion au sanatorium. C. Malibran and L. Gassot.
36 *Exploration fonctionnelle de l'intestin, par l'analyse qualitative des graisses dans les fèces (fats in stools). R. Gaultier.
37 (No. 78.) *Indications thérapeutiques du képhir. G. Hayem.
38 La radiologie en medecine interne. G. Holzknecht.
39 Tenth International Congress of Dermatology, Berlin, 12-17, 1904. (Commenced in No. 76.)
40 (No. 79.) Delire d'inanition. H. Toupet and G. Lebret.
41 *Traitement de l'incontinence essentielle nocturne d'urine par la méthode épidurale. Cantas.
42 Unequal Behavior of Pupils in Respiratory Affections. F. Dehérain.—L'inégalité papillaire dans les maladies du poumon et de la plevre.
43 (No. 80.) Sciatique radiculaire unilaterale. L. Lortat-Jacob and G. Sabaréanu.
44 Les neurofibrilles d'après la méthode et les travaux de S. Ramon y Cajal. L. Azoulay. (Continued through Nos. 59, 68 and 74.)
45 Des lésions du foie, des reins, de l'organisme en général dans la genèse des accès éclamptiques. Theuveny.
46 Les éliminations urinaires au cours des vomissements incoercibles de la grossesse (vomiting of pregnancy). A. Schwab.
47 (No. 81.) Les carôto-rénaux. L. Bernard.
48 La réaction dite "de l'urohématine." L. Lemaire.

20. **Treatment of Fecal Fistula Consecutive to Femoral Hernia.**—Delbet explains that the reason why these fistulas persist so long is that the inner, adherent walls of the two loops forming the hernia are not sloughed off like the rest, but remain, forming a barrier to the passage of fecal matters from one loop into the other. As soon as permeability of the gut is re-established by removal of this obstructing wall the feces pass on through the natural passages and the fistula heals. Le Dentu uses to resect this barrier Dupuytren's enterotome, and calls the little operation "kentrotomy." In the 15 cases on record conditions were restored practically to normal by this kentrotomy in a few instances, but in 9 it proved to be impossible of application for anatomic reasons. Laparotomy was necessary and a vertical incision along the outer margin of the rectus proved to be best suited for the purpose. The incision terminated below, 2 cm. from the previously tamponed fistula. By thus operating at a distance from the fistula the surgeon works in sound tissue and the exclusion of the fistula insures its rapid healing. Kentrotomy and direct suture are applicable only for the simplest cases.

21. **The Organic Phosphoric Principle in Grains.**—On page 1013 the previous announcements of Gilbert on this subject were summarized. He here gives his clinical experience with the organic phosphorus derived from the cereals applied to the treatment of pathologic conditions due to defective assimilation or excessive elimination of phosphorus. Out of 200 patients thus treated he has followed 75 for a sufficiently long period to fully establish the direct nutritive and dynamic properties, the latter manifested in the stimulation of the general nutrition of the tissues and cells. In convalescence from severe illness, in anemia and chlorosis, in pulmonary tuberculosis and in neurasthenia, rapid improvement in the general health was almost constant. The most striking effect is the increased appetite apparent from the first. In the 18 cases of neurasthenia this improvement in the appetite impressed the subjects themselves, and was soon followed by the subsidence of the other troubles and morbid tendencies disappeared. In short, he concludes, the new phosphoric principle isolated by Posternak from the grains of chlorophyll plants must be ranked as one of the most powerful stimulants of nutrition yet known.

22. **The Nascent State.**—Tommasi ascribes the peculiar energy of drugs in the nascent state to the heat generated by their liberation. With peroxid of hydrogen as much as 21.6 cal. is generated as the oygen is liberated. This heat favors its entering into other combinations and explains its greater activity in the nascent state.

26. **Phosphoric Acid in Therapeutics.**—Cautru affirms that anhydrous phosphoric acid has no toxic action. Guinea-pigs killed after having ingested what would be equivalent to doses of 200 gm. a day for a man, showed no evidences of fatty degeneration of the kidneys or liver. The microscope findings were those of normal organs, as also in dogs. Some of his patients have been taking from 2 to 4 gm. for more than five years, without showing evidences of intolerance. The morbid conditions in which it is most beneficial are those in which there is demineralization of the organism with hypoacidity of the urine. It is especially effectual when the nervous system seems to have partially lost its resisting power. True neurasthenia, for instance, is accompanied by considerable elimination of the alkaline phosphates in the urine, the logical consequence of the exaggerated consumption of phosphoric acid occasioned by the overexertion of the brain. The nervous balance can not be restored until the lost phosphorus has been replaced. In neurasthenics in whom the nerve cells are secondarily affected from some digestive or other trouble, the urine will be found hypoacid with phosphaturia or "hypophosphatia" and the phosphoric acid may be required for years. In arthritis, rheumatism, tuberculosis, malaria, dyspepsia, etc., during the phases accompanied by demineralization of the organism, phosphoric acid will be found surprisingly effective, as also in the nervous troubles of pregnancy and overrapid growth. Years of experience have only rendered him more emphatic in the recommendation of phosphoric acid in therapeutics.

30. **Adiposis Dolorosa.**—In the case described a tumor had developed in the orbit during youth. It grew to considerable size, but seemed to become arrested about the twenty-fifth year. During the thirtieth year symptoms of Dercum's disease began to develop, and at 60 the patient presented a typical case of adiposis dolorosa. Thyroid and other treatment had no effect, and Delucq is now trying an extract of the pituitary body, thinking that possibly pressure on this organ from the tumor in the orbit may have been the cause of the affection.

31. **Dysenteric Anasarca.**—Remlinger writes from Constantinople to call attention to the anasarca observed during and after dysentery in certain subjects free from heart or kidney trouble. By exclusion he arrives at the assumption that the sodium sulphate given copiously during the dysentery may possibly have induced retention of chlorids and this in turn have induced the anasarca. Sodium sulphate is the classic remedy for diarrhea in certain localities, but these experiences show possibly the need for caution in its use.

36. **Fat in the Stools.**—Gaultier points out that it is not the quantity of fat eliminated, but its condition, that is important from a diagnostic point of view. When normally digestible fat is found untransformed in the feces, some affection in the biliary apparatus or the pancreas may be assumed, or both together. The entire lack of any change in the fat ingested speaks for the last two conditions. When fat is found in the feces transformed into an easily assimilated form, but yet not utilized, the trouble must be some functional disturbance in the small intestine. The proportion of fat utilized averages 95 per cent. in normal conditions. In case of obstruction to the flow of bile the proportion of unutilized fat rises to 49 per cent. on a milk diet, but about a third of the fats are found transformed into a readily assimilable form (Müller). In case of obstruction to the flow of pancreatic juice, the proportion of unutilized fats is from 52 to 83 per cent. (Deutscher), and in intestinal catarrh and other affections the proportion ranges from 18 to 40 per cent. or more, but in these latter cases more than three-quarters of the total amount is transformed into an assimilable form. Gaultier urges that the general physician should pay more attention to these findings, perhaps not wasting time on the search himself, but consulting some working laboratory where such research can be done at trifling expense.

37. **Kephir in Therapeutics.**—Hayem regards kephir as both a food and a medicine. As a food it is milk already undergoing digestion and thus rendered much more easily assimilated, while the large proportion of carbonic and lactic acid and traces of alcohol, confer on it the properties of a medicine. Kephir is almost the only food which nourishes while allowing the stomach almost absolute rest. It has also some antiseptic and sedative action. Hayem reviews its various indications, which can be deduced from the above. It is contraindicated in case of pyloric obstruction or stagnation in the stomach from any cause.

41. **Epidural Injections in Treatment of Urinary Incontinence.**—Cantas reports 15 cases in which the incontinence

dated from two to eight years, all completely cured by Cathelin's epidural injections with 2 exceptions, and in the latter the improvement nearly amounts to a cure. The simplicity, entire harmlessness and efficacy of this method commend it, he thinks, above all others for the treatment of incontinence. He found the dose of 10 c.c. more effectual than a smaller one, and cocain better than mere salt solution. The interval between injections should be long enough to prevent habituation.

Archiv f. path. Anatomie, Etc., Virchow's, Berlin.

Last indexed page 1347.

49 (CLXXVII, No. 2.) Die oberen cardialen Oesophagus-Drüsen und ihre Entstehung, nebst Bemerkungen über Epithel-Metaplasie (esophageal glands). J. Schaffer.
50 Zur Pathologie des Gefässsystems (vascular system). C. Hart.
51 Zur Kenntnis der pathologischen Anatomie der Nebennieren (of suprarenals). G. Marchetti.
52 Zur Kenntnis der fetthaltigen Pigmente (fat-containing pigments). E. Sehrt.
53 Ueber Peritonitis bei eitriger Lymphangioitis des Ductus thoracicus. M. Löhlein.
54 Ueber die unter dem Namen (Paget's disease of the nipple) bekannte Hautkrankheit und ihre Beziehung zum Karzinom. K. Zieler.
55 Zur Kenntnis der Fibrosarkomatose des Nerven-Systems. J. O. L. Hulst.

Beiträge z. Geb. und Gynäkologie (Hegar's), Leipsic.

Last indexed page 288.

56 (IX, No. 1.) Zum Studium der menschlichen Placentation. H. Friolet.
57 Zur spontanen Uterus-Ruptur in der Gravidität. K. Meyer.
58 Fall von intrauterinem Luftatmen (air breathing). O. Wille.
59 Ueber die molekularen-Konzentrations-Verhältnisse des Blut-Serums der Gravida, Kreissenden und Wöchnerinnen und des Liquor amnii. E. Scipiades and G. Farkas.
60 *Die Resultate von 40 Frühgeburtseinleitungen mittels Eihautstich (puncture as first step in premature delivery). L. E. de Reynier.
61 *Results of Artificial Premature Delivery on Account of Contracted Pelvis. H. Hunziker.—Ueber die unmittelbaren und späteren Resultate der künstlichen Frühgeburt eingeleitet wegen Beckenenge.
62 Zur Frage der Entstehung des Promontoriums während der Fötal-Periode. H. Lammers.

60. **Puncture of Membranes in Artificial Delivery.**—Eighty-two per cent. are still living of the children artificially delivered on account of contracted pelves in 54 cases at von Herff's clinic. When delivery is not urgent, and the diameter of the pelvis ranges from 7.25 to 9.5 cm., early puncture of the membranes has established its usefulness, according to de Reynier, as affording the best prognosis for mother and child.

61. **Results of Artificial Delivery in Contracted Pelves.**—It has been the experience at Basle that fully 20 per cent. more children are born alive when delivery is induced prematurely than when Nature is left to deliver the child spontaneously in cases of contracted pelvis. Twice as many children are alive by the tenth day among the artificially delivered as among the spontaneously born infants. The number of women with pelves from 6.9 to 8 cm. in diameter was 498. Out of the 2,080 deliveries, 774 were artificially induced, and 188 of the children were born spontaneously. Only 29 per cent. of the latter were alive the tenth day, while 59.1 per cent. of the artificially delivered children were then alive, and 53.6 per cent. are still living. Only a small percentage of the children naturally delivered have survived to date.

Deutsche medicinische Wochenschrift, Berlin. and Leipsic.

63 (XXX, No. 40.) *Zur direkten Bronchoskopie zwecks Extraktion quellbarer Fremdkörper (of foreign bodies liable to swell). Nehrkorn.
64 *Ueber die Antikörper des Streptokokken- und Pneumokokken-Immun-Serums. F. Neufeld and W. Rimpau.
65 *Ueber die Bedeutung der Sensibilitäts Prüfungen mit besonderer Berücksichtigung des Drucksinnes (tests of sensibility and pressure sense). (Commenced in No. 39.) A. Strümpell.
66 *Einiges über Naht und Nahtmaterial (suture material). J. Mikulicz. (Commenced in No. 39.).
67 Inhibiting Action of Radium on Developmental Processes. A. Schaper. (Commenced in No. 39.)
68 Report of Fifth Northern Congress of Internal Medicine.
69 Report of Cancer Research Committee.
70 (No. 41.) *Oesophagus Rupture und Oesophago-Malacie. R. Beneke.
71 Zur Kasuistik des Ileus. E. Roos.
72 *Ueber die operative Behandlung der narbigen Kieferklemme (Cicatrical lockjaw). P. Manasse.
73 *Ueber weitere Anwendung des lokalen dauerden Druckes (permanent pressure). Dr. Heermann.
74 Ueber die Agglutination der Milzbrandbakterien durch spezifisches Serum (agglutination in anthrax). G. Sobernheim.
75 Technical Novelties. Schotten.
76 Das Sanitäts-Wesen in der russischen Feld-Armee. A. Hipplus.
77 Wilhelm His. Obituary. (Commenced in No. 40.)

63. **Extraction of Beans, Etc., from Air Passages.**—Nehrkorn has had occasion to treat 3 children who had drawn beans into their air passages. After the first symptoms of suffocation had subsided as the bean settled down in some nook, a period of calm followed, which lasted for twelve to twenty-four hours, or until the bean began to swell. As it swelled it caused increasing suffocation. In one case the extraction of the bean by upper bronchoscopy took three hours, and tracheotomy was necessary the next day on account of inflammatory swelling of the glottis, evidently the result of compression by the bronchoscope. For this and other reasons he advocates immediate tracheotomy for low bronchoscopy, without wasting time on upper bronchoscopy, in case of aspiration of a foreign body by young children. He indorses von Eickens' warning that bronchoscopy should be done whenever there is even the slightest suspicion of aspiration of a foreign body into the bronchial system, and with the greater urgency if it is one liable to swell.

64. **Antibodies of Streptococcus Serum.**—The results published from the research described indicate that there is a third kind of specific action by the specific serums, which is different both from the antitoxic and the bactericidal action. This third action resembles the bactericidal, but it requires direct co-operation on the part of the cells. Phagocytosis is induced, but not until the bacteria have been acted on in some specific manner.

65. **Technic of Tests for Cutaneous Sensibility.**—Strümpell's extensive experience has demonstrated that the sensation of pressure may be missing while the most delicate sense of contact persists intact. He thinks the sense of pressure is transmitted by the soft parts below, and suggests the following schedule for diagnostic determination of the sensibility: A. Sensibility of skin, 1, for simple differences in tension. Contact sensitiveness. Sensibility of the hairs; 2, for injurious painful stimuli (pricks). Pain sensation; 3, for heat stimuli. Heat sensation; 4, for cold stimuli. Cold sensation. B. Sensibility of the deeper parts, 1, sense of difference in tension in the fasciæ, muscle and periosteum. Pressure sensation. Pressure sense; 2, sensation for differences in tension in the tendons, muscles, ligaments and joint surfaces. Movement sensation. Muscle sense. Tests for the above with a brush, needle, hot and cold water and the hands, answer all practical purposes.

66. **Suture Material.**—Mikulicz has been using for seven years the Hofmeister formalin catgut, and has had no cause for changing. He does not venture to use silk for buried sutures, except in surely aseptic wounds. In his private clinic he always operates in thread gloves, and his assistants wear the same, frequently changed, but in the less favorable conditions of the polyclinic they all wear rubber gloves. In order to delay absorption of catgut, he has it prepared in a special fashion by a kind of tanning process devised by Miyake. The catgut is stretched tight over a sheet of glass and tanned for twenty-four hours in a 5 per cent. aqueous solution of quebracho, after which it is prepared for use by the Hofmeister formalin technic. Quebracho extract is derived from a kind of oak that grows in Argentina, peculiarly rich in tannic acid. It is being used more and more in the tanneries instead of native trees. Catgut thus prepared is stronger than the untanned, and persists for four weeks and more with scarcely any indications of swelling. After this it gradually yields and is absorbed, but it still held to the sixty-fifth day in the tests and was not finally absorbed until the eighty-third to the ninety-ninth day. He remarks that the reputation of a surgeon sometimes depends on the manner in which the skin is sutured, and he always insists on his pupils paying special attention to this suture. He uses alternately fine silver wire and catgut, where the aspect of the scar is important. Halsted's percutaneous silver wire suture ensures ideal scars. Another means to avoid stitch-hole suppuration is to remove the threads promptly, and incise parallel to the folds of the skin, as, for instance, circular in operating on the neck. An incision made on this principle gapes so little that the stitches can safely be removed as early as the second day. Another advantage is that the scar remains linear and tends to shrink instead of broadening.

70. **Softening and Rupture of Esophagus.**—Beneke comments on the 25 observations of rupture of the esophagus on record. The subjects were usually drinking men, and the rupture occurred during convulsive vomiting. In 11 cases of softening of the esophagus which he has discovered at necropsies, the microscopic findings indicated that the process was intravital. He suggests as a possible explanation that the gastric juice may become corrosive under the influence of some severe disease, such as tuberculous meningitis, peritonitis or cancer. If the cardia should relax the gastric juice might find its way into the lower part of the esophagus and, stagnating there, injure the walls and entail their softening with consecutive rupture. If a pleural effusion should be noted it would presumptively confirm the existence of such a rupture, and aspiration would show either a simple effusion or stomach content. To decide the question the necropsy should be done early, and the body should be laid in the ventral decubitus in order to prevent postmortal softening at other points.

72. **Operative Treatment of Cicatricial Lockjaw.**—Manasse illustrates several ways of treating cicatricial lockjaw. He followed Israel's technic, slightly modified, in the case described, taking a flap from the neck to cover the gap left by resection of the corner of the mouth on each side.

73. **Therapeutic Application of Permanent Pressure.**—Heermann has been using for several years a mode of local treatment by permanent pressure. He illustrates the various devices which have proven their usefulness in his experience, an elastic wet sponge, a rubber bag or cushion, placed on the part, with a folded compress opposite, the whole strapped tight by a broad strap wound once or twice around the region and buckled. The most effectual is the rubber cushion, inflated after it has been strapped to the part. The aim is to apply compression only at one or two points, not circular. He uses permanent compression to reduce swellings, to maintain what has been accomplished in treating stiff joints and cicatricial contractions, especially after burns and after injuries liable to cause stiffness. Superheated air can be applied with the part thus dressed.

Monatshefte für prak. Dermatologie, Hamburg.

Last indexed page 577.

78 (XXXVIII, No. 11.) Keratosis circumpilaris (Keratose pilaire engainante). C. Audry.
79 Ueber einige neue Färbungsmethoden mit Anwendung der Zenkerschen Fixierungsflüssigkeit in der histologischen Technik der Haut (of skin). Pelagatti.
80 Ueber das gehäufte Auftreten von Talgdrüsen an der Innenfläche des Praputium (sebaceous glands in prepuce). E. Delbanco.
81 Casein-Albumoseseife (a permanently neutral soap). Ibid.
82 (No. 12.) Fall von Lichen pemphigoides. S. Mendes da Costa.
83 *Zur Infektiosität des Gumma. E. Delbanco.
84 (XXXIX, No. 1.) Psoriasis vulgaris der Haut und Schleimhaut ihre pathologische Stellung und Aetiologie. P. Thimm.
85 Der therapeutische Wert des "Arhovin" als Antigonorrhoikum, Harndesinfiziens und Prophylaktikum. J. A. Goldmann.
86 (No. 2.) Ueber Keramin-Seife (soap). P. G. Unna.
87 Meine Methode zur Abortivbehandlung der Gonorrhoe. C. Engelbreth.
88 Kerion bei Mikrosporie. Bargum.
89 (No. 3.) X-Zellen und hyaline Körperchen im Haut-Epitheliom. A. Pasini.
90 Weitere Studien zur Aufklärung der chemischen Natur des Weigert'schen und Unna'schen Elastinfarbstoffes nebst Mitteilungen über Schnellfärbung des elastischen Gewebes und neue schnellfärbende Elastin-Farbstoffe (stains). A. Pappenheim.
91 (No. 4.) *Ueber multiple neurotische Haut Gangrän. D. Latte.
92 *Exstirpations- und Operationsfeder (operating pen). Dreuw.
93 Zur feineren Anatomie der Oberhaut (epidermis). F. Bering.
94 (No. 5.) *Multiple neurotische Haut-Gangrän (of skin). A. Brandweiner.
95 (No. 6.) *Thesen bezüglich einiger pseudoparasitärer Krebseinschlüsse (cancer cell inclusions). P. G. Unna.
96 *Die Epitheliome und ihre Behandlung. V. Mibelli.

83. **Infectiousness of Gumma.**—Delbanco reports a case and reviews 4 similar ones previously published by others, in which an ulcerative tardy syphilide on the genitals transmitted syphilis to the wife. He is inclined to think that the rarity of such occurrences is due to the fact that gummatous growths are usually located at points where direct transmission is scarcely possible, for instance, on the periosteum. As the gumma can transmit infection, it follows that it must necessarily still harbor the syphilitic virus. The gumma indicates the presence of living virus. The manifestations in the late stage of syphilis are, therefore, not essentially different in regard to their etiology from the products of the secondary stage. The danger of direct or hereditary transmission of the infection during the gummatous stage is very remote, but, at the same time, a positive prognosis against such infection is impossible. In conclusion he reviews recent communications on the subject, citing von Zeissl, whose views agree with his own.

91. **Multiple Cutaneous Gangrene.**—Latte has had occasion to observe 3 typical cases of multiple gangrene of the skin, and from his experience and that of others he is inclined to regard them as self-inflicted injuries. The subjects were all women and all exhibited signs of hysteria. Another point was that the left side was the one affected, where the subjects could easily reach the parts with the right hand. He thinks that a number of cases recorded as tropho-neurotic processes belong in this category, although he does not deny the existence of the latter, and presents a few examples from the literature.

92. **Operating Pen.**—Dreuw has found very useful a small scoop the shape and size of an ordinary steel pen. It is fastened in an ordinary penholder, and persons who shrink from any operation requiring a knife never make the slightest objection to the use of this operating pen. A fold is taken up in the skin and after it is frozen under ethyl chlorid, the pen is passed flat through the fold, as deep as may be necessary. It is thus possible to remove warts, nevi, molluscum contagiosum, incipient cancroids, etc., with the minimum of annoyance to the patient. Scraps can also be obtained for histologic examination without objection on the part of the subject. Dreuw gives an illustration of his pen, but refrains from saying anything in this connection about the pen being mightier than the sword.

94. **Multiple Neurotic Gangrene of the Skin.**—Brandweiner's case was that of a neuro-psychopathic individual presenting multiple gangrene at points on the legs and later on the trunk. The affection had lasted about four years, finally involving the arms and face. The lesions at first resembled herpes zoster, but each terminated in actual superficial gangrene of the skin. The patient submitted to a number of tests with chemicals, but none induced a reaction differing in any respect from those observed in normal subjects. The remarkable phenomenon was noted, however, that serum from the blisters, injected at other points, caused other blisters and final gangrene, while the same serum, injected into other subjects, induced nothing of the kind. Blood serum from the patient behaved the same, but with a weaker action. He suggests that the neurotic influence caused the production of some chemical agent (toxin), which caused the efflorescence and final gangrene on a predisposed soil. Not the slightest effect on the lesions was obtained with any therapeutic measure. The lesions were treated locally, with antiseptics, but even cauterizing with carbolic acid was unable to prevent the development of the gangrene. He reviews other articles on the subject of true spontaneous gangrene. Singer has pointed out that the absence of any peripheral redness as an indication of inflammatory reaction, speaks against a self-inflicted injury.

95. **Pseudo-Parasitic Cell-Inclusions in Cancer.**—Unna describes certain phases of degeneration of the cells when invaded by cancer, especially the degeneration of the nuclei. Fragments of the nuclei break off and their aspect, as he describes in detail, is remarkably like that of Plimmer's corpuscles.

96. **Treatment of Epithelioma.**—Mibelli does not hesitate to proclaim that it is possible to cure epitheliomata completely and permanently with local application of arsenious acid. He has been using it since 1897, and 15 out of 20 patients thus treated have been permanently cured. He describes his experimental and clinical research to determine the mechanism of its action, and relates his conclusions in regard to the indications for this treatment. Even in the cases in which it offers little prospect of a cure, it may be found an excellent palliative. It does not interfere with the application of other

measures later. He uses a stronger concentration than Trunecek, generally 1 per cent., occasionally .5 per cent., and sometimes 2.5 per cent. He has further combined it with ether, in the proportion of 1 part arsenious acid, 20 parts ether and 30 parts alcohol. A peculiarly convenient form of applying it to the face is in a gelatin, containing 1, 2 or 3 per cent. arsenious acid. Recent research has shown that the drug is "ionized" through the gelatin just as effectually as in an aqueous solution. A cotton wad is impregnated with the fluid and is pressed firmly on the surface of the epithelioma after the latter has been cleaned and freshened. A permanent bandage is then applied above, the dressing renewed every day for four or five days. The epithelioma heals in a month or so, leaving a smooth, small, scarcely apparent scar, unless it is peculiarly malignant, but even in this event more or less permanent improvement is realized. If recurrences develop later, further application of the arsenious acid will cure them permanently. In his experience the alcohol-ether mixture proved most effectual applied under a tight dressing. This communication was one of the addresses at the recent international congress of dermatology, and gives the particulars of each case treated.

Münchener medicinische Wochenschrift.

97 (LI, No. 39.) *Neurologie und Orthopädie. O. Vulpius.
98 *Diagnose und Behandlung der Gallensteinerkrankungen (gallstones). J. Decker.
99 Zur Lehre von der akuten Leukämie. F. Pfannkuch.
100 Ueber wiederauftretenden Herpes zoster, im besonderen über Zoster erythematosus und Zoster vegetans. H. Vorner.
101 Ganglion am Knie-Gelenks-Meniskus. A. Ebner.
102 *Plombierung des Canalis caroticus. Notiz über partielle Resektion des Ganglion Gasseri und über Einfallspforten der Osteomyelitis und Tuberkulose. S. v. Gurbski.
103 Ueber subjektive Kakosmie. J. A. Killian.
104 Behandlung eines Thorax-Empyems mittels der Müllerschen Dauer-Kanule bei einem 5 monatlichen Kinde. K. Barth.
105 Zur Therapie der Leukoplakia urethralis. H. Ludwig.
106 Hereditary Transmission of a Six-fold Deformity. R. Hilbert.—Vererbung einer 6-fachen Missbildung an allen 4 extremitäten durch 3 Generationen.
107 Ueber Bronchoskopie. H. Neumayer. (Commenced in No. 38.)
107½ Carl Welgert, Obituary.
108 Prevention of Pregnancy. H. Kraft.—Indikationen und Mittel der Schwangerschaftsverhütung.

97. **Neurology and Orthopedics.**—Vulpius is anxious to draw the attention of neurologists and physicians in general to the borderland between neurology and orthopedics. The borderland affections are the most interesting and the most promising of all that come to the orthopedist. The results of tenotomy are really surprising in many instances. The prospects are better the more circumscribed the paralysis and the greater the functional capacity of the muscles supplying the power, but success is obtained even when an antagonist muscle is utilized. He believes that the antagonist muscle always acts during a co-ordinated muscular movement, and that when it is transplanted it assumes the rôle of the muscle it substitutes, although after-exercises are necessary to accomplish the desired result. He describes what he calls tenodesis, midway between tenotomy and arthrodesis, which cures a flail joint by shortening all the tendons surrounding it. The transplantation method of treating the results of injuries and affections of the nerves, with resulting dystrophy, is a particularly promising field. He never delays a moment to recommend it in presence of an irreparable, isolated radial paralysis, etc., as also for obstetric plexus paralysis. Intercostal neuralgia accompanying scoliosis is frequently due to compression of the nerves, and can be relieved by orthopedic treatment of the spine, with resection of the compressing rib in extreme cases. He adds that the Sauerbruch air chamber may possibly prove an aid in this line. He devotes much space to the orthopedic treatment of poliomyelitis and its consequences, asserting that there are very few cases in which it is not possible to essentially improve or cure the patient by carefully individualized orthopedic treatment. Orthopedic appliances of orthopedic surgery can also afford valuable results in transverse myelitis, and the former will be found useful in tabes, not only for the spine, but for the knee and ankle. Splints check the use of the limb somewhat, and relieve the weight while counteracting the destructive process in the cartilages of the joint. An actual curative action can be ascribed to them in tabes and syringomyelia unattainable by any other means. In case of spondylitis, gradual forcible correction of the hump may prevent development of paralysis or cure it. If this fails or is not applicable, laminectomy should be considered. The prognosis is most favorable when the spondylitis is already healed and the compression of the spinal cord is due merely to a fragment of bone or thickened tissue. He has been very successful with tenotomy in a number of cases of paralysis subsequent to apoplexy.

98. **Gallstone Affections.**—Decker remarks that he has found gallstones in 10.6 per cent. of all his necropsies during the last two years. Riedel estimates that there are two million suffering from gallstones throughout the German empire, but the local frequency varies, the highest percentage to date having been found at Strasburg, where 25.2 per cent. of all the cadavers over 60 years old present gallstones. Decker emphasizes the importance of examination of the liver region in every person suffering from a stomach affection. The latter is frequently merely the first symptom of gallstones. Icterus is absent in fully half the cases of the latter. Carcinoma of the gall bladder developed on a basis of cholelithiasis in 14 per cent. of his cases. He goes over the various points for the diagnosis and states that acute, mild cholecystitis, the attacks which terminate with expulsion of stones, and acute occlusion of the bile duct, all these require internal treatment alone. Operation is frequently but not absolutely indicated in processes in the biliary passages threatening perforation, in hydrops of the gall bladder and in severe acute cholecystitis. He warns that the disposition to gallstone affections is frequently acquired during school life, but can be avoided by sports and hygiene. In treatment he advises six to eight glasses of Carlsbad water at the natural temperature (that of the Sprudel is nearly 160 F.), which can be taken at home, supplemented by application of heat to the abdomen or liver region in bed for two or three hours, followed by a hot bath and renewed heat to the liver region for an hour. This treatment is repeated morning and afternoon, with deep breathing exercises. If the subjects go a year without trouble he advises a repetition of the course for three or four weeks. When physicians learn to diagnose gallstone affections earlier, when they systematically examine the liver region in every case of stomach trouble, and when they treat the gallstone affection so soon as diagnosed on the energetic lines here suggested, the internists will win back a large part of the domain which has passed into the hands of the surgeons solely from the neglect of diagnosis and treatment by the internists.

102. **Metal Filling for Carotid Canal.**—The gasserian ganglion was resected in the case of the douloureux and psychosis described. The operation was accompanied by severe hemorrhage from the sinus cavernosus, which persisted only temporarily controlled by tamponing. As a last resource the services of a dentist were secured, and the gap in the temporal bone over the carotid canal was plugged with an amalgam filling, like a cavity in a tooth. The operative results were so satisfactory that they should encourage further trials of this application of dentists' fillings in general surgery. In conclusion, a mode of access to the gasserian ganglion is proposed which allows much ampler oversight than other technics, but has not yet been tried on man.

Therapeutische Monatshefte, Liebreich's, Berlin.

109 (XVIII, No. 2.) Die neuesten Arbeiten über Immunisierung gegen Tuberkulose. A. Gottstein.
110 Die Verwendung von Formalin zur Konservierung von Nahrungsmitteln. O. Liebreich.
111 Die Behandlung der akuten und chronischen Gonorrhoe des Mannes. F. Bering.
112 *Use of Condiments with Food. O. Liebreich.—Ueber den Nutzen der Gewürze für die Ernährung.
113 Influence of Alkaline Mineral Waters on Elimination of Nitrogen and Uren. A. Gilardoni.—Beitrag über den Einfluss des alkalischen Mineralwassers auf Stickstoff- und Harnsäureausscheidung.
114 *Die epiduralen Injektionen und ihre Anwendung insbesondere bei den Krankheiten der Harnwege. A. Strauss.
115 Origin of Phthisis. E. Fink.—Ueber Lungenschwindsuchtsentstehung und Tuberkulosebekämpfung.
116 Diphtherie-serum und Suggestion. W. G. Esch.
117 Chronic Diseases and Mountain Climate. Ant. Hoessli.—Chronische Krankheiten und Alpenklima. (Commenced in No. 1.)

112. **Uses of Condiments with Food.**—Liebreich presents scientific data to show that condiments are by no means mere luxuries, but are stimulants to the appetite or serve some other physiologic purpose. Mustard, for instance, aids the chemistry of digestion by destroying the putrefaction bacteria, and also by stimulating the gastric secretions, like wine or brandy. As with the latter, too large amounts induce injurious hypersecretion or habituation. It is possible that the active principle of the mustard, absorbed into the blood, may display disinfecting powers. His experimental research unmistakably demonstrated that an internal disinfection had been realized after administration of non-fatal doses. It has been found that prisoners remain in better health and appetite when condiments are allowed, than without. Baer states that stomach troubles have been much less frequent in the prisons since this has been recognized. The psychic factors which enter into appetite and digestion, and which are lacking in prisons, are partly substituted by the use of condiments.

114. **Epidural Injections.**—Strauss is an ardent advocate of Cathelin's method of epidural injections. He here relates his successful application of them in 7 cases of enuresis, 5 of pollutions, 2 of spermatorrhea, 1 of prostatorrhea, 2 of impotence, 1 of sexual neurasthenia and 1 of pruritis pudendi. They frequently prove successful after failure of all other measures. They generally induce marked improvement, and frequently a complete cure, although relapses may follow. They will be found especially useful in enuresis infantilis, incontinence without mechanical cause, pollutiones nimiæ, impotence, spermatorrhea and neuropathic polyuria.

Zeitschrift f. Geb. und Gynäkologie, Stuttgart.

Last indexed page 436.

118 (LII, No. 1.) Treatment of Closure of Female Genitalia. M. Hofmeier (Würzburg).—Ueber congenitale und erworbene Verschlüsse der weiblichen Genitalien und deren Behandlung.
119 Die Aetiologie der Kraurosis vulvæ. P. Jung.
120 *Ueber die Bedeutung des Fiebers in der Geburt (significance of fever in childbirth). E. Ihm (Königsberg).
121 Zur Aetiologie des Prolapses der weiblichen urethra (in women). L. Kleinwächter.
122 Fall von Chorio-Epitheliom nach Tubar Gravidität. G. Hinz.
123 (No. 2.) Zur Lehre vom Chorion-Epitheliom. Hammerschlag.
124 Ovum-Formation. W. Liepmann.—Ueber "Eibildung" in Carcinomen des Ovariums.
125 Zur Lehre von den Adenomyomen des weiblichen Genital-Tractes. F. Kleinhans.
126 Zur secundären Bauchhöhlenschwangerschaft (abdominal pregnancy). F. Prüsmann.
127 *Ueber histologische Indicien des Chorioepithelioma benignum. D. v. Velits.

120. **Significance of Fever in Childbirth.**—The simpler, the more rapid, and the more natural the delivery, in case that fever is observed, the greater the chances that the puerperium will progress favorably and that the temperature will approximate normal. The height of the fever and chills intrapartum are no criterion of the seriousness of the case. The behavior of the pulse is the main point for prognosis. When the pulse rate is high the prognosis is less favorable, even although the temperature may decline. Fever with the bag of waters intact seems to have a more favorable prognosis. These conclusions were deduced by Ihm from study of 200 cases of fever intrapartum. The most important factor in its etiology is the premature or early rupture of the membranes. Long protracted delivery after the rupture does not seem to affect the prognosis unless it lasts more than three days, and the fever sets in soon after the membranes rupture. The prognosis for primiparæ is only a trifle less favorable than for multiparæ and the latter are much more liable to have a febrile puerperium than the former when the birth has proceeded normally.

127. **Histologic Indications of Benign Chorioepithelioma.**—Velits remarks that about 200 cases of chorioepitheliomas are on record, and the opinion seems to be gaining ground that the possibilities of a permanent cure are even better than in case of sarcoma or carcinoma. On the other hand, some cases seem to be even more rapidly fatal. The microscopic findings in the cases that proved to be benign, invariably indicated a diminished vitality of the Langhans cells, evidenced by the scanty or lacking mitosis. This absence of mitosis was accompanied by the appearance of migrating cells, which indicate the dissolution of the syncytium. These cells are the products of the degeneration of a chorio-epithelioma, as well as of a hydatidiform mole undergoing destruction.

Books Received.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

QUANTITATIVE ANALYSIS BRIEF. By Allard Memminger, M.D., Professor of Chemistry, Hygiene and Clinical Urinary Diagnosis in the Medical College of the State of South Carolina. Second Edition, Revised and Rewritten. Cloth. Pp. 124. Price, $1.00 net. Philadelphia: P. Blakiston's Son & Co. 1904.

NEW METHODS OF TREATMENT. By Dr. Laumonier. Translated and Edited from the Second Revised and Enlarged French Edition by H. W. Syers, M.A., M.D., Cantab., Physician to Out-patients Great Northern Central Hospital. Cloth. Pp. 320. Price, $2.50 net. Chicago: W. T. Keener & Co. 1904.

CLINICAL DIAGNOSTIC BACTERIOLOGY, Including Serum Diagnosis and Cytodiagnosis. By Alfred C. Coles, M.D., D.Sc., F.R.S. Edin. With Colored Plates. Cloth. Pp. 237. Price, $2.75 net. London: J. and A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1904.

SULPHUROUS ACID AND SULPHITES AS FOOD PRESERVATIVES. By C. E. Calm, Ph.D., Member American Chemical Society and Society of Chemical Industry. Paper. Pp. 34. Hygelan Chemical and Research Laboratory, Chicago.

THE DIVISION OF SURGERY OF THE MEDICAL SCHOOL OF HARVARD UNIVERSITY. Report of Research Work, 1903-1904. Bulletin No. 111. Paper. Pp. 53. Boston.

SAUNDERS' QUESTION COMPENDS.

ESSENTIALS OF BACTERIOLOGY. By M. V. Ball, M.D., Formerly Resident Physician at the German Hospital, Philadelphia. Fifth Edition, Thoroughly Revised. By Karl M. Vogel, M.D., Assistant Pathologist at the College of Physicians and Surgeons (Columbia University), New York City. Cloth. Pp. 343. With 96 Illustrations, Some in Colors, and Six Plates. Price, $1.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

ESSENTIALS OF NERVOUS DISEASES AND INSANITY: Their Symptoms and Treatment. By John C. Shaw, M.D., Late Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital Medical School. Fourth Edition, Thoroughly Revised. By Smith Ely Jelliffe, Ph.G., M.D., Clinical Assistant, Columbia University, Department of Neurology. Fully Illustrated. Cloth. Pp. 196. Price, $1.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

ESSENTIALS OF MATERIA MEDICA AND PRESCRIPTION WRITING. By Henry Morris, M.D., College of Physicians, Philadelphia. Sixth Edition, Thoroughly Revised. By W. A. Bastedo, Ph.G., M.D., Tutor of Materia Medica and Pharmacology at the Columbia University (College of Physicians and Surgeons), New York City. Cloth. Pp. 295. Price, 1.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1904.

ESSENTIALS OF ANATOMY: Including the Anatomy of the Viscera. By Charles B. Nancrede, M.D., Professor of Surgery and Clinical Surgery in the University of Michigan, Ann Arbor. Seventh Edition, Thoroughly Revised. Fully Illustrated. Cloth. Pp. 419. Price, $1.00 net. Philadelphia, New York, London: W. B. Saunders & Co., 1904.

NEW PATENTS.

Recent patents of interest to physicians, etc.:

770152. Combined hospital wagon and operating table. Peter K. Bechtell, Pittsburg, Pa.
769741. Atomizer. Isaac Q. Gurnee, Butler, N. J.
769798. Vibrator. Benjamin L. W. and E. L. Hanfield, New York.
769952. Truss. Bernhard Lindman, Montreal, Canada.
770013. Inhaler. Samuel H. Linn, Rochester, N. Y.
770014. Electromedical appliance. Samuel H. Linn, Rochester, N. Y.
769755. Breathing apparatus. Charles W. Madsen, Chicago.
769829. Surgical instrument. Irvine K. Mott, Cincinnati.
770023. Crutch. Wm. A. Phillips, St. Louis.
770208. Ear. Edmond L. Williams, West Mansfield, Ohio.
770708. Massage apparatus. Charles Adams-Randall, New York.
770452. Vaginal syringe. Henry Carstens, Chicago.
770519. Massage device. Hiram A. Dow, Battle Creek, Mich.
770275. Antiseptic compound and making same. Herman Endemann, New York.
770368. Surgical instrument. Albert C. Heath, St. Paul, Minn.
770645. Pneumatic eye exerciser and tester. Gustav E. Lundgren, Elgin, Ill.
770739. Syringe nozzle. Robert F. Coleman, Philadelphia.
771086. X-ray tube. Carl H. F. Muller, Hamburg, Germany.
771600. Douche apparatus. Wm. J. Bauer, Syracuse, N. Y.
771268. Joint for artificial limbs, etc. Gottlob Reinhardt, Elmhurst, Cal.
772028. Device for putting medicine into eyes. George A. Carpenter, Fort Morgan, Colo.
772105. Abdominal supporter and truss. Benjamin F. Lacy, Pekin, Ill.
772114. Syringe. Victor Pappenheim, Kassel, Germany.
771846. Invalid lifter and conveyer. Orrin B. Thompson, Jersey, Ohio.
771847. Curative couch. John Titus, Oyster Bay, and W. Titus, O'd Westbury, N. Y.
772197. Surgical appliance. Paul Weaver, Rochester, N. Y.
772318. Artificial limb. Henry Wennebor Jr., Springfield, Ill.